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PICTORIAL PROGRESS REPORT
OF
THE SATURN LAUNCH VEHICLE DEVELOPMENT

Volume IV

By Layout Section

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CENTER

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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GEORGE C. MARSHALL SPACE FLIGHT CENTER

PICTORIAL PROGRESS REPORT
OF
THE SATURN LAUNCH VEHICLE DEVELOPMENT

Volume IV

LAYOUT SECTION
VEHICLE ENGINEERING BRANCH
PROPULSION AND VEHICLE ENGINEERING DIVISION

PICTORIAL PROGRESS REPORT
OF
THE SATURN LAUNCH VEHICLE DEVELOPMENT

Volume IV

This fourth booklet of photographs has been assembled by the Layout Section, Vehicle Engineering Branch, Propulsion and Vehicle Engineering Division with the cooperation of many personnel in other Divisions of the George C. Marshall Space Flight Center. It is presented as a Pictorial Progress Report of the facilities build-up and the development of the Saturn Launch Vehicle System during the calendar year 1961. It is anticipated that additional volumes will be issued as the program progresses through the research and development phase.

February 1962

LAUNCH VEHICLE TRANSPORTATION

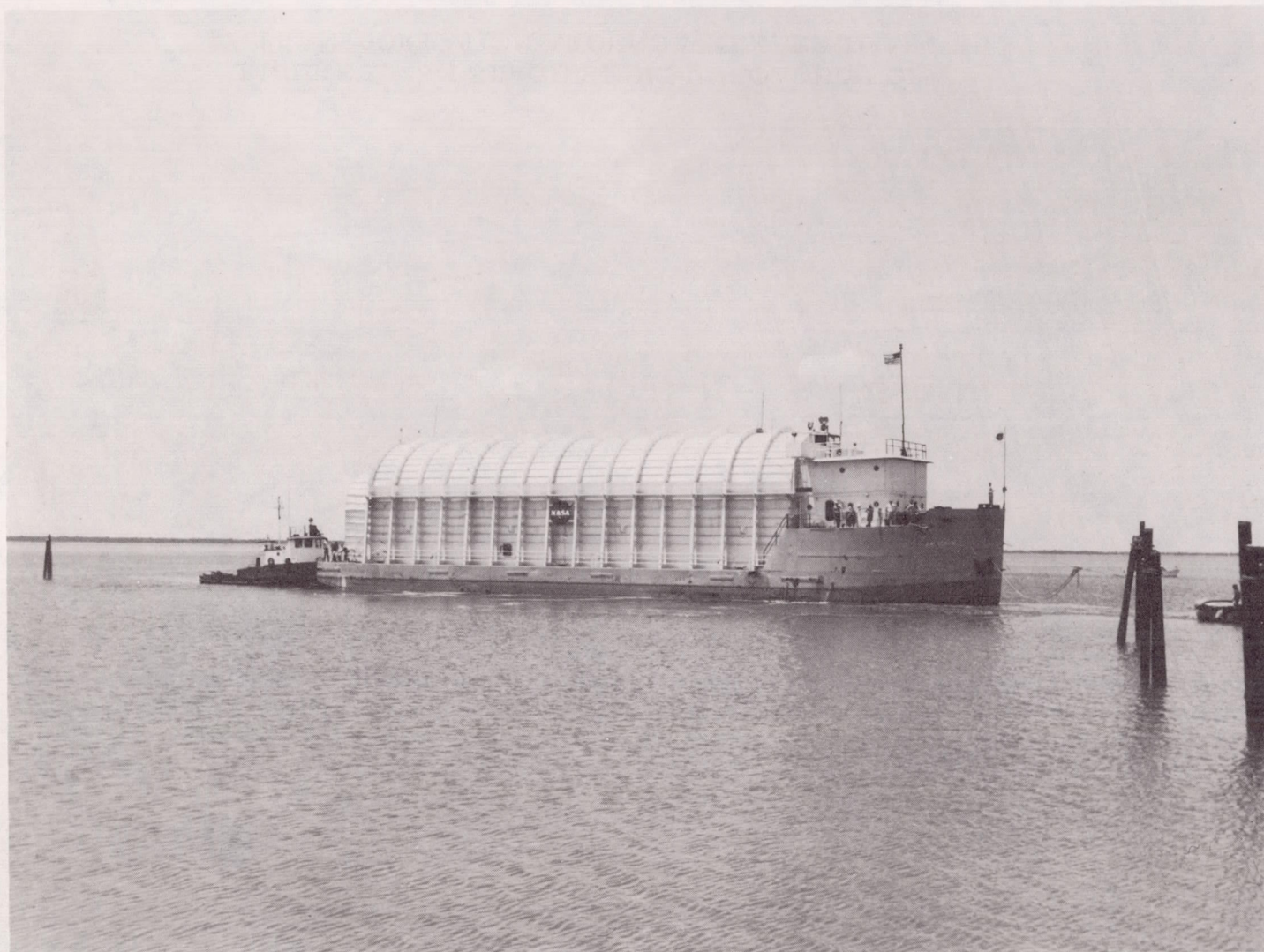


FIGURE 1. THE PALAEMON USED FOR LAUNCH VEHICLE
TRANSPORTATION FROM MSFC TO WHEELER DAM



FIGURE 2. S-I STAGE BEING UNLOADED FOR
TRANSPORTATION AROUND WHEELER DAM

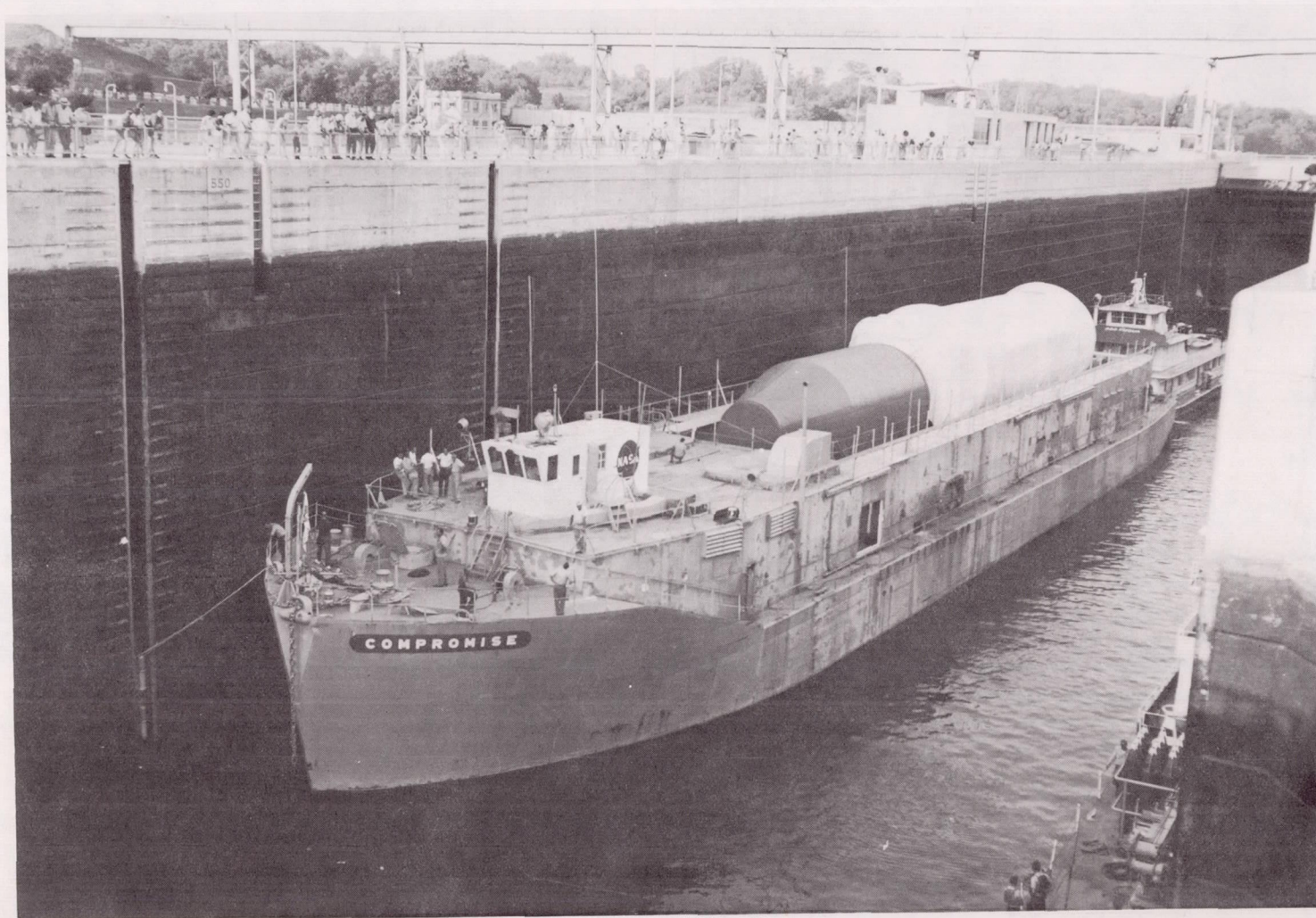


FIGURE 3. THE COMPROMISE, DESIGNED TO TRANSPORT
SA-1 FROM WHEELER DAM TO CAPE CANAVERAL
THE VIEW SHOWN IS AT THE WILSON DAM LOCK

SA-1 PREPARATION AND LAUNCHING

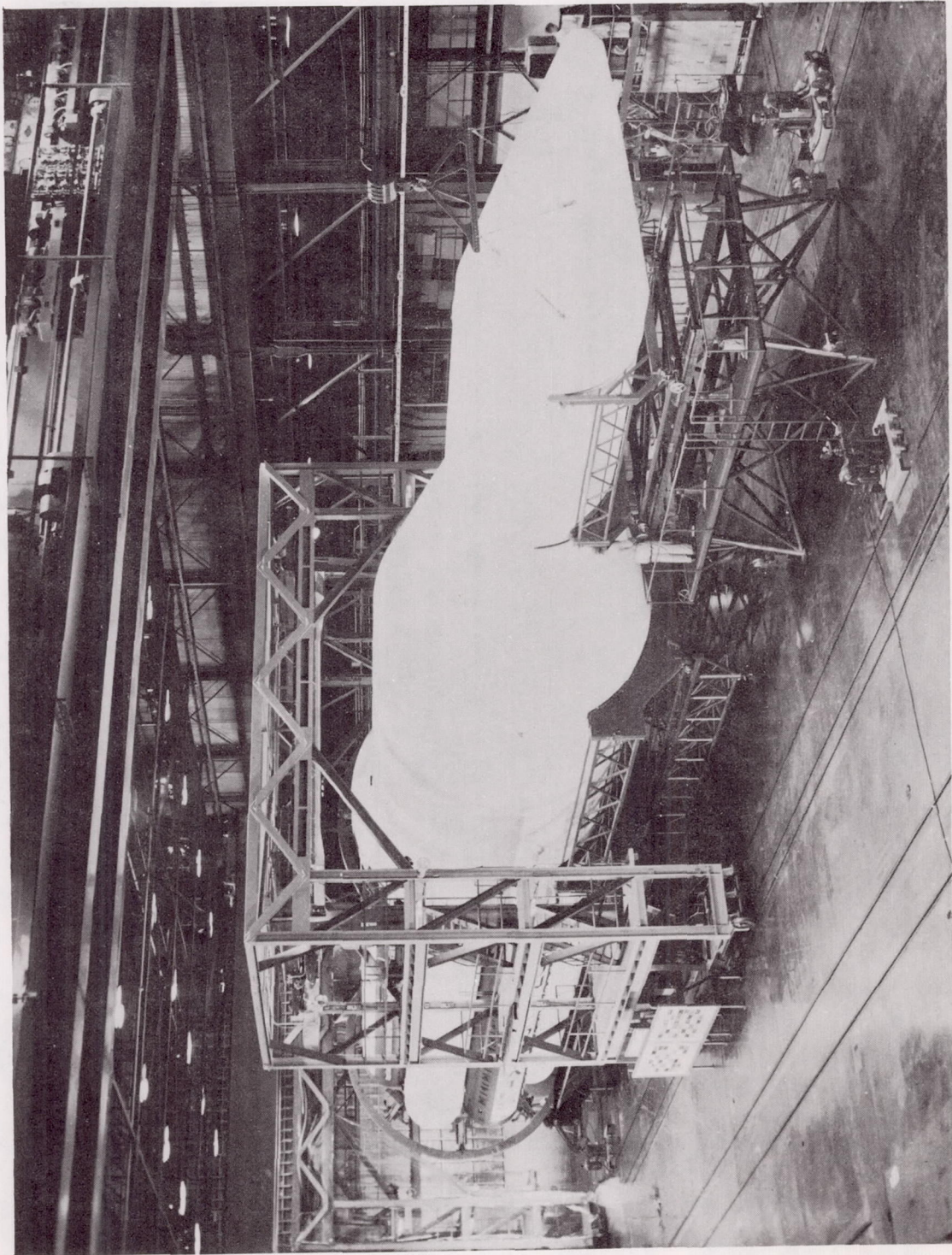


FIGURE 4. COMPLETED SA-1 VEHICLE

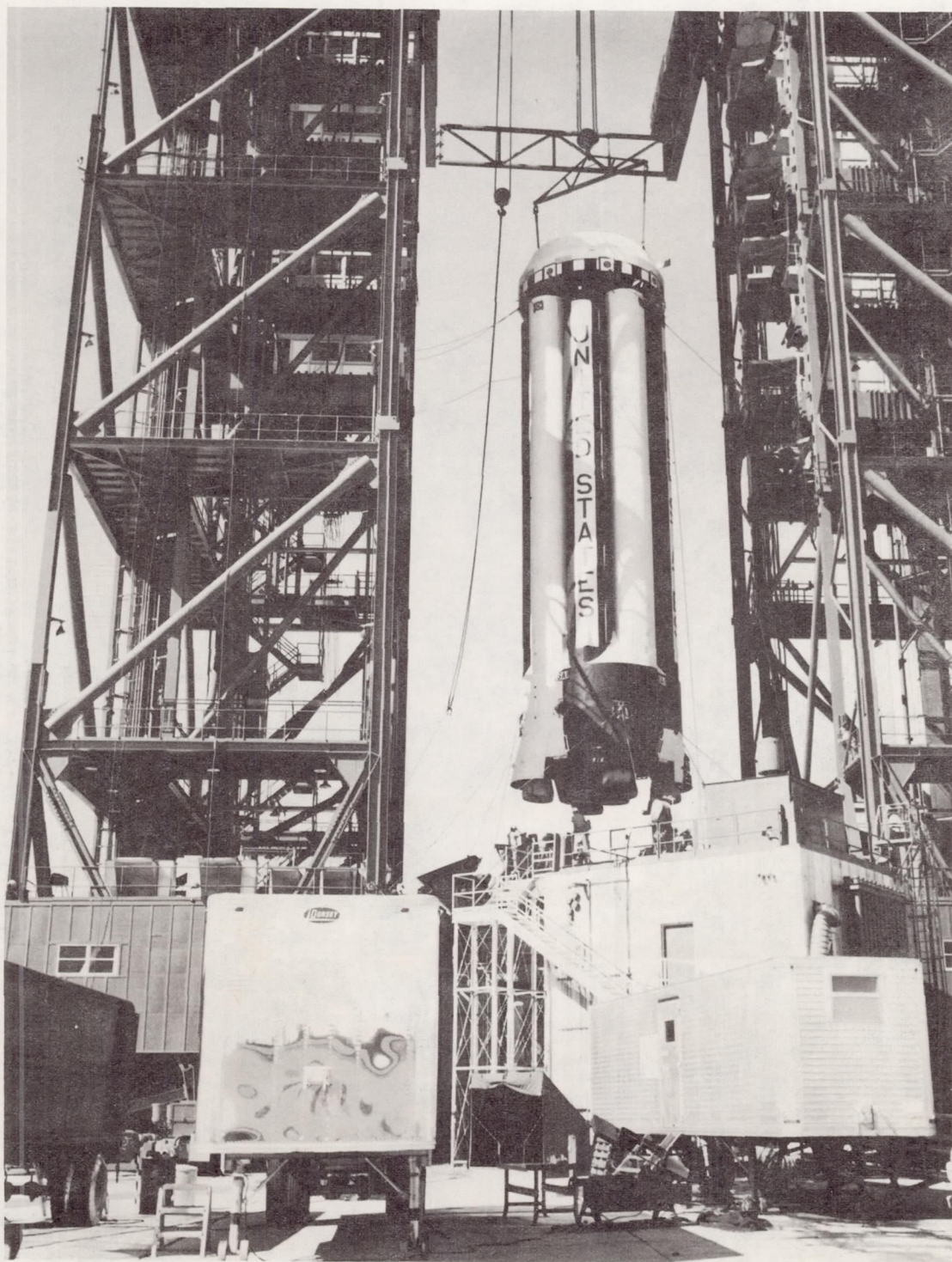


FIGURE 5. S-I STAGE BEING ERECTED ON LAUNCH PEDASTAL

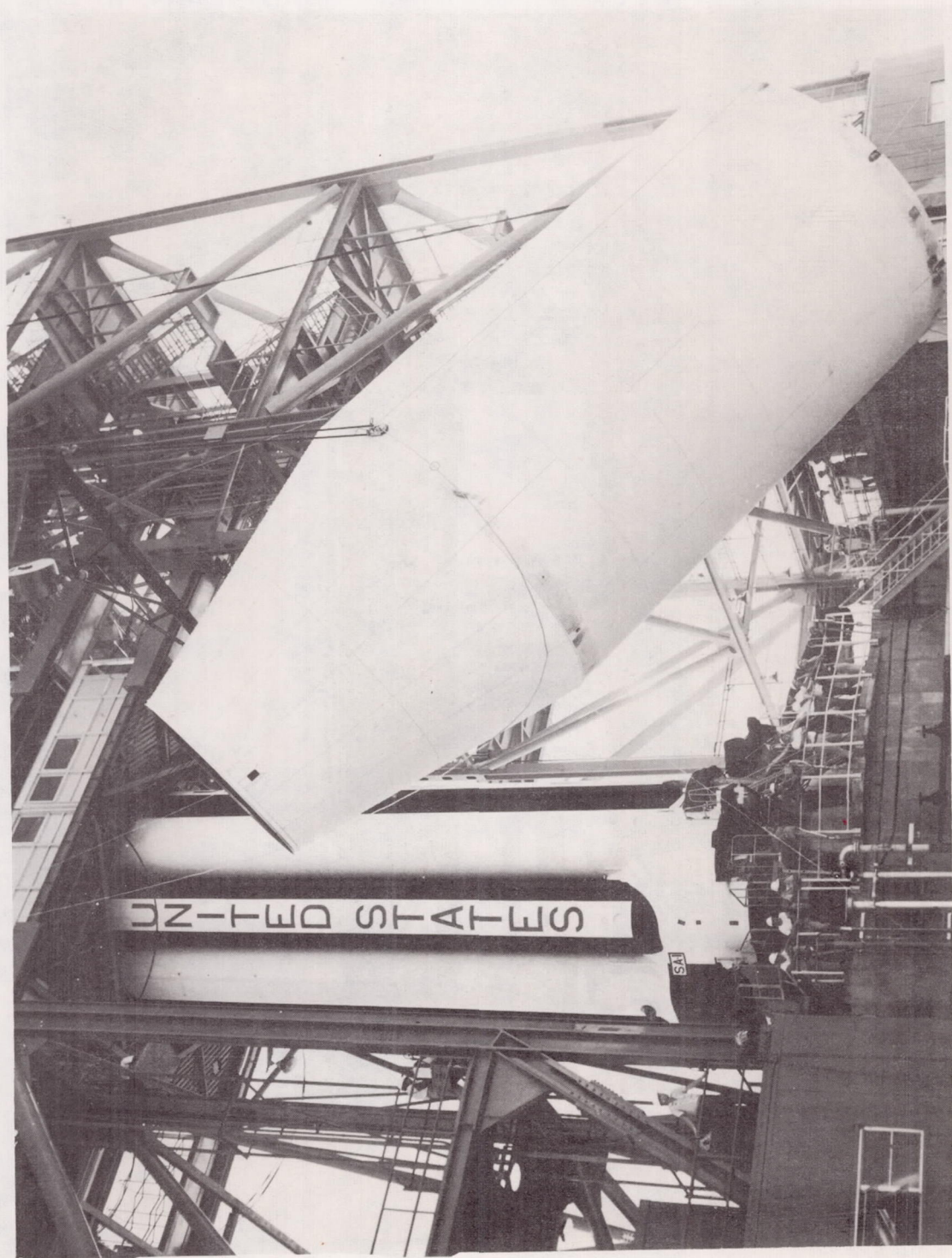


FIGURE 6. DUMMY S-IV STAGE BEING RAISED INTO POSITION

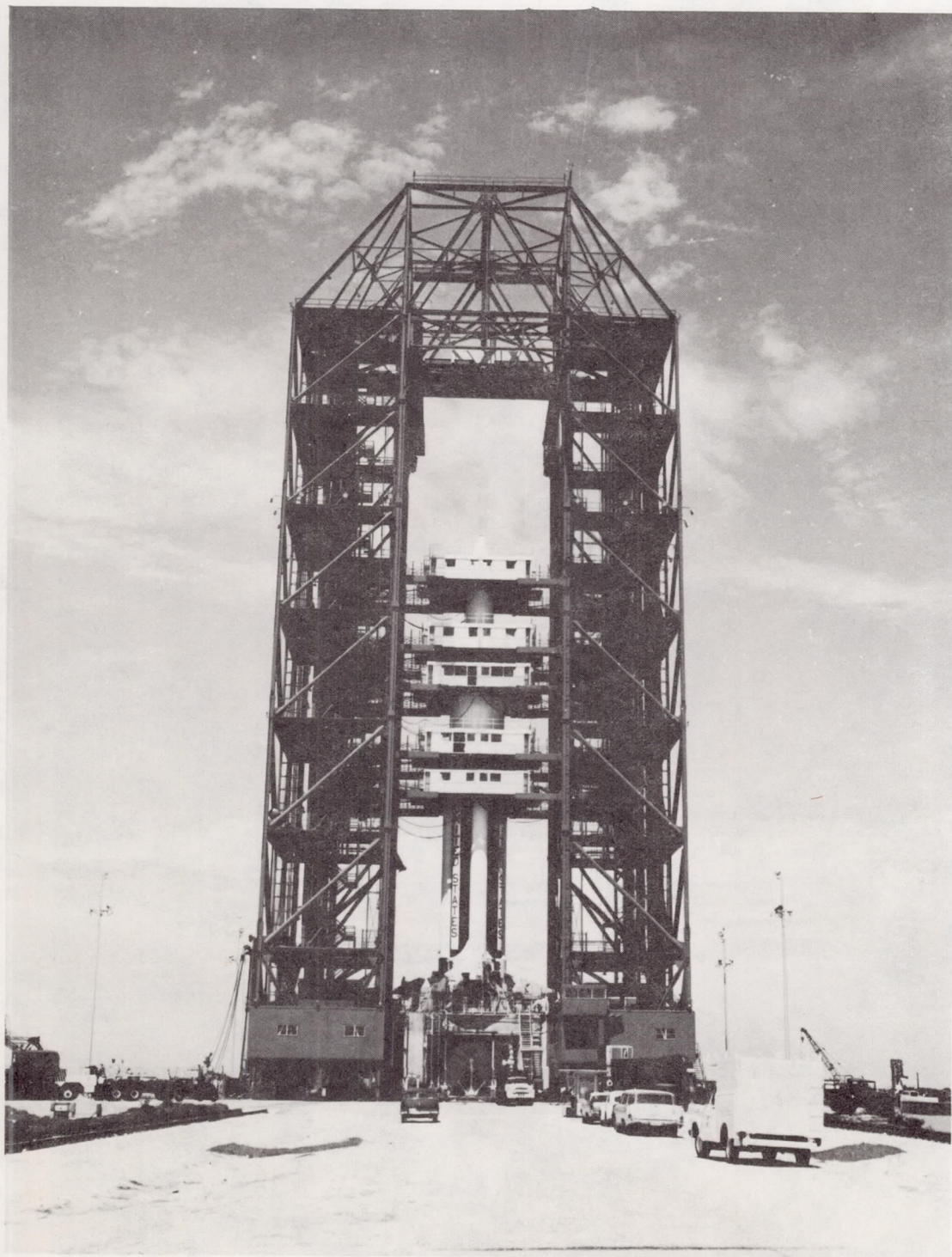


FIGURE 7. ERECTED VEHICLE WITH SERVICE
STRUCTURE IN PLACE

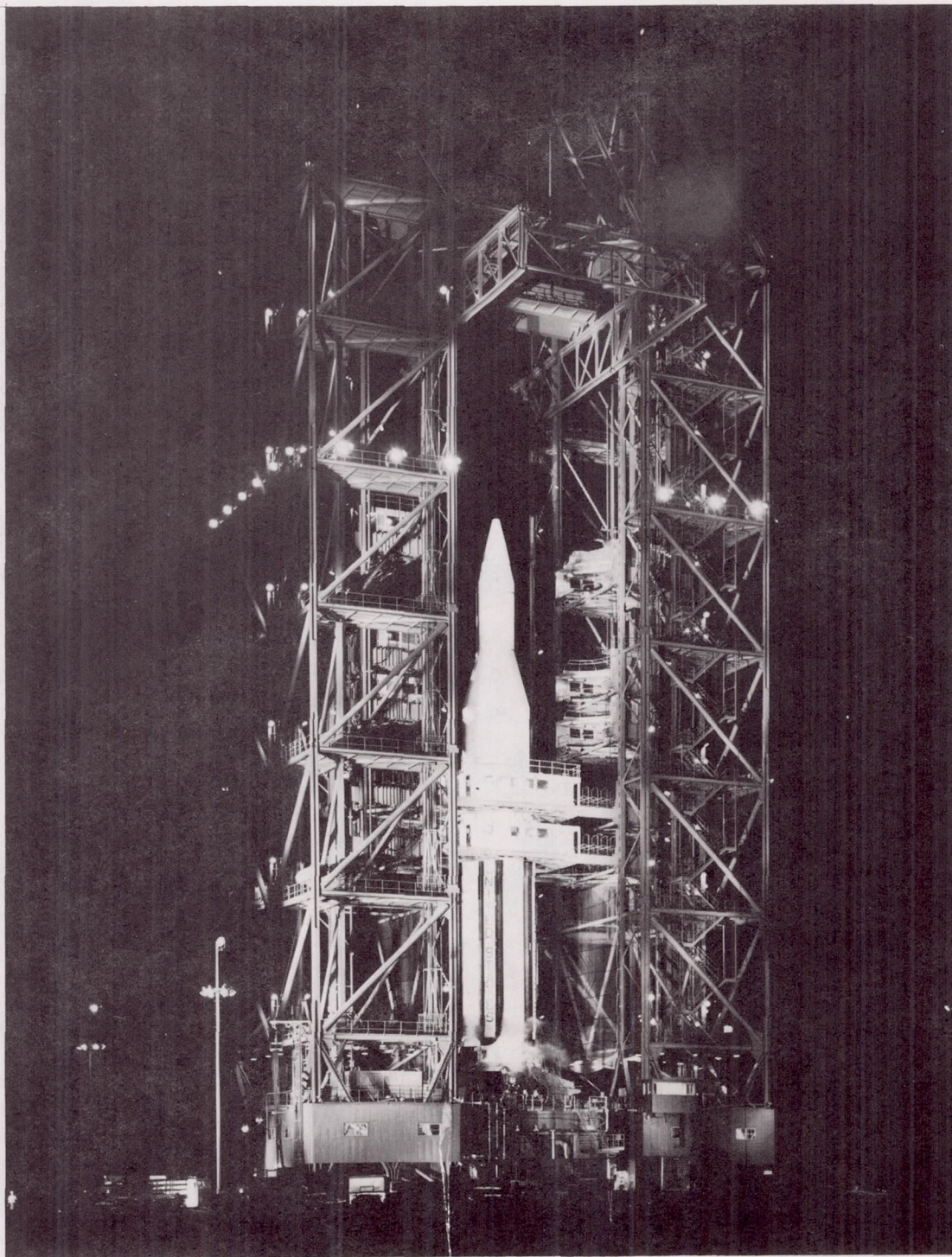


FIGURE 8. NIGHT VIEW JUST PRIOR TO LAUNCH

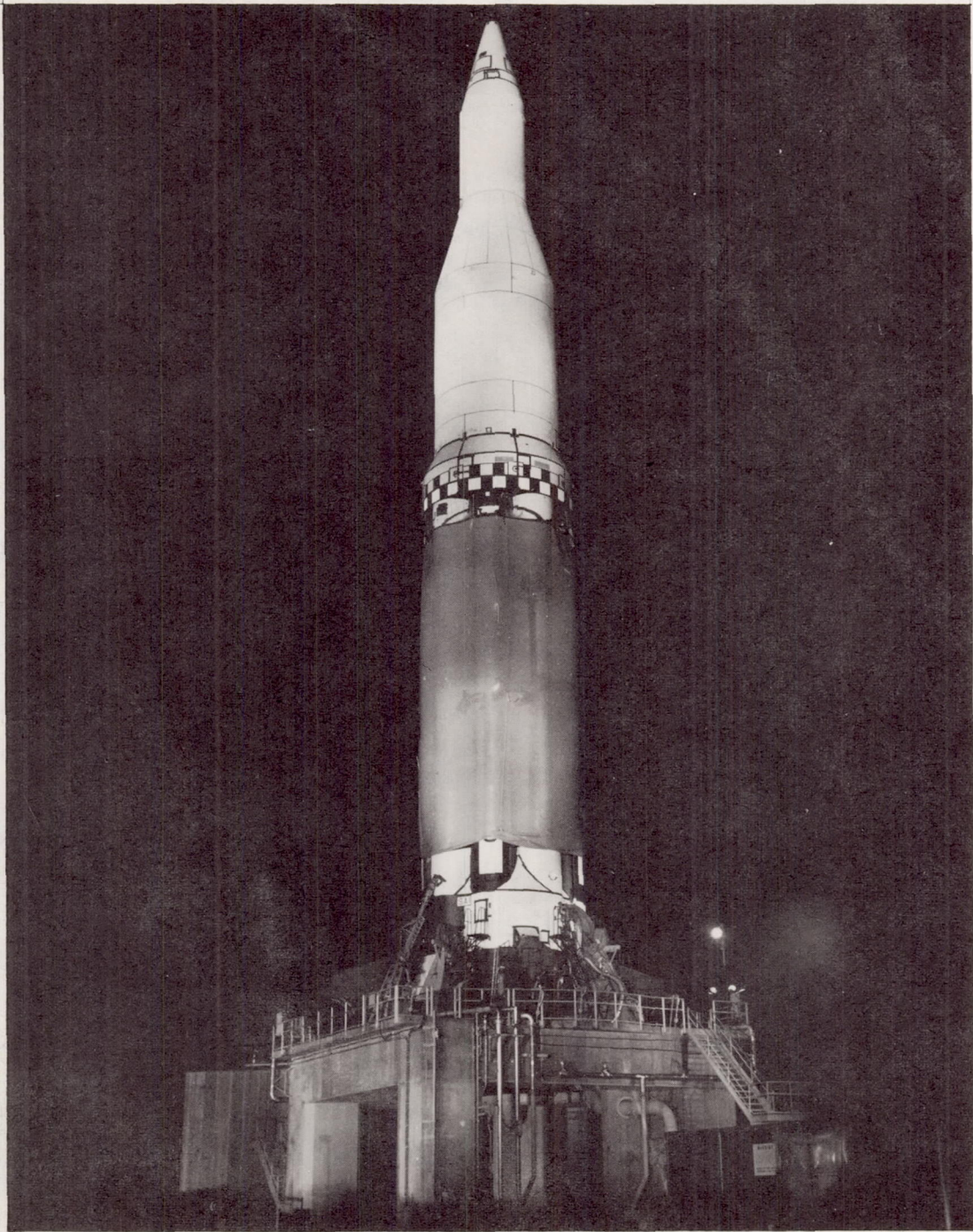


FIGURE 9. SERVICE TOWER WITHDRAWN FOR RF CHECKS.
BOOSTER COVERED FOR RAIN PROTECTION

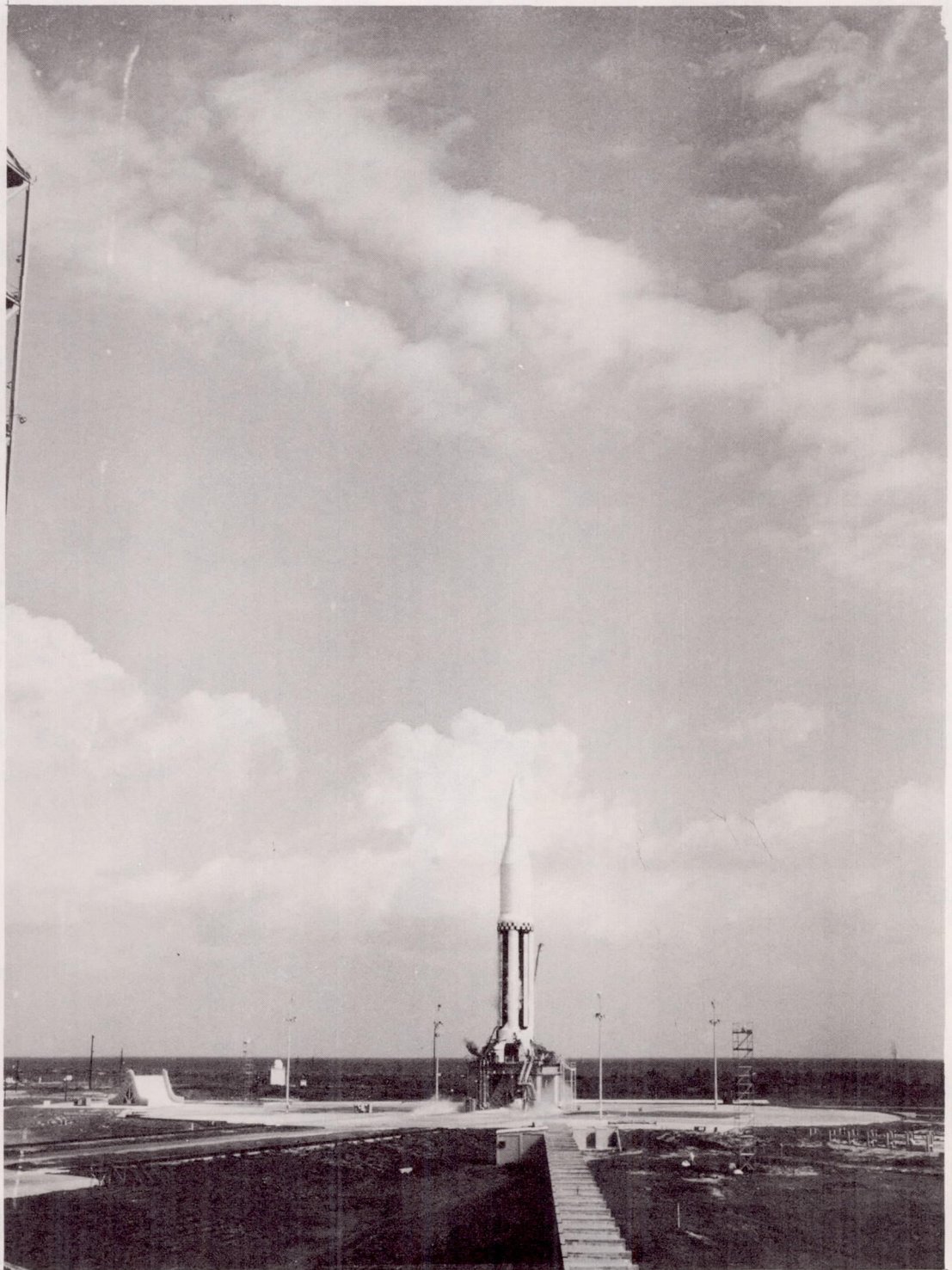


FIGURE 10. IGNITION

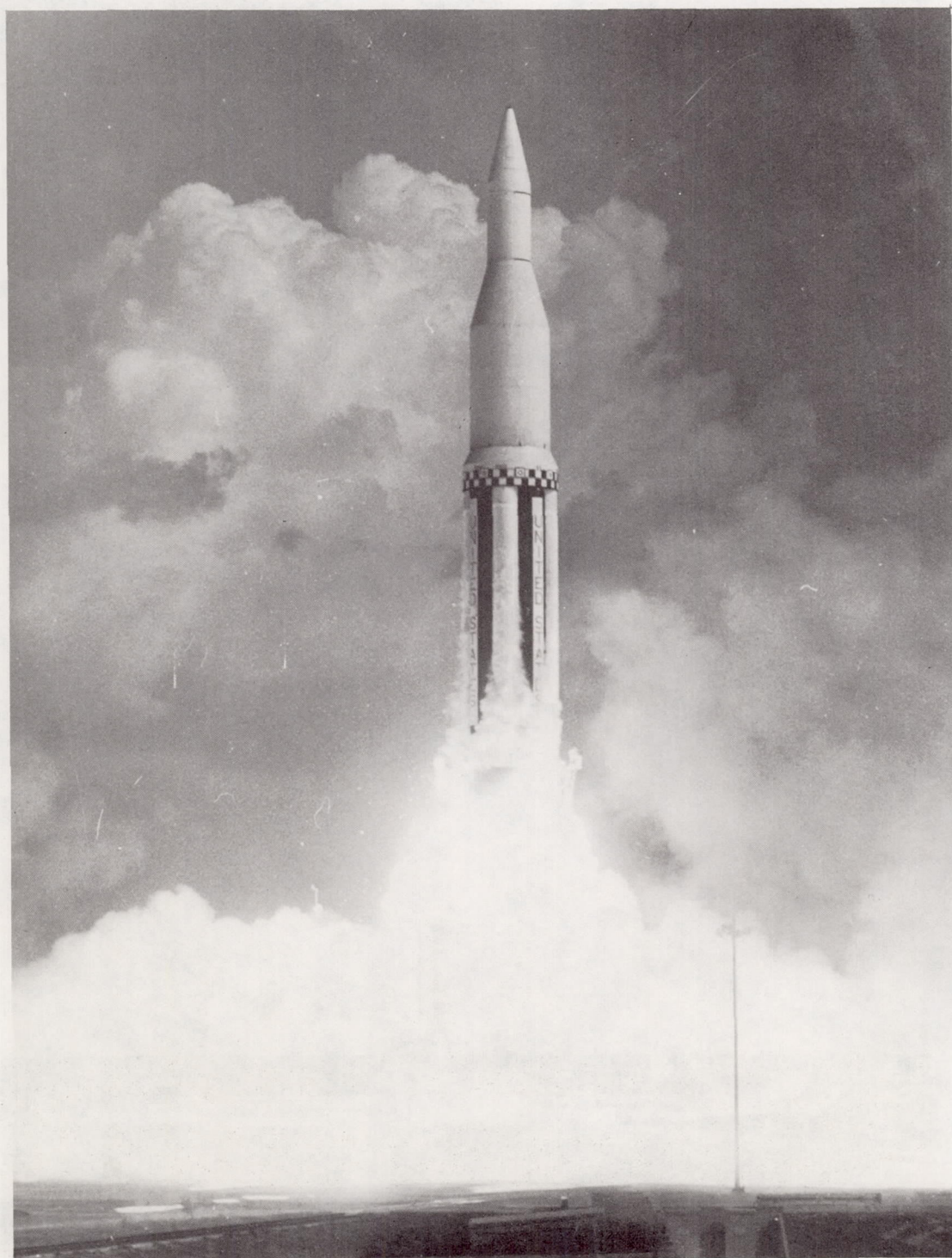


FIGURE 11. SUCCESS!

POST LAUNCH SCENES VLF 34

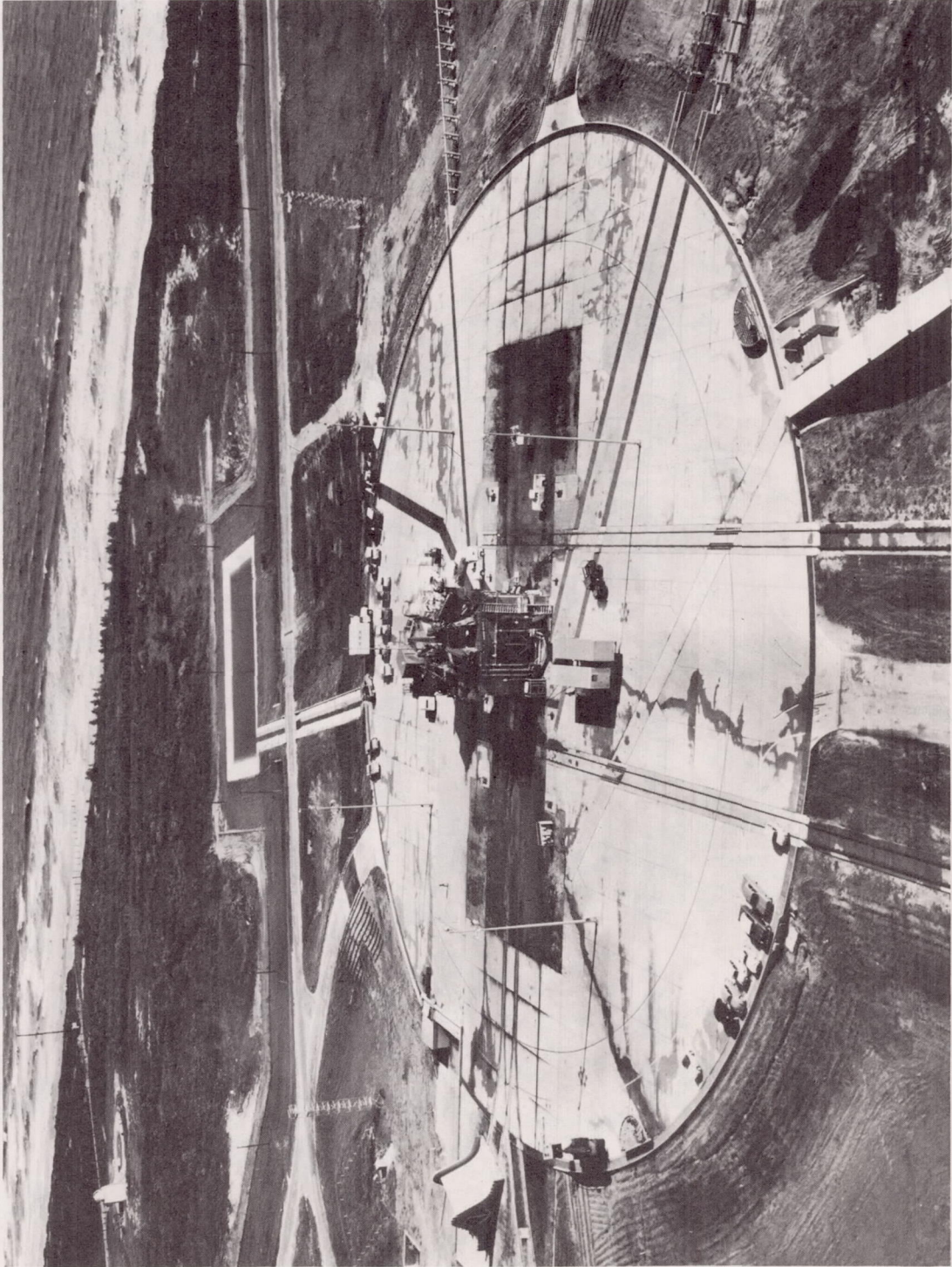


FIGURE 12. AERIAL VIEW OF VLF 34

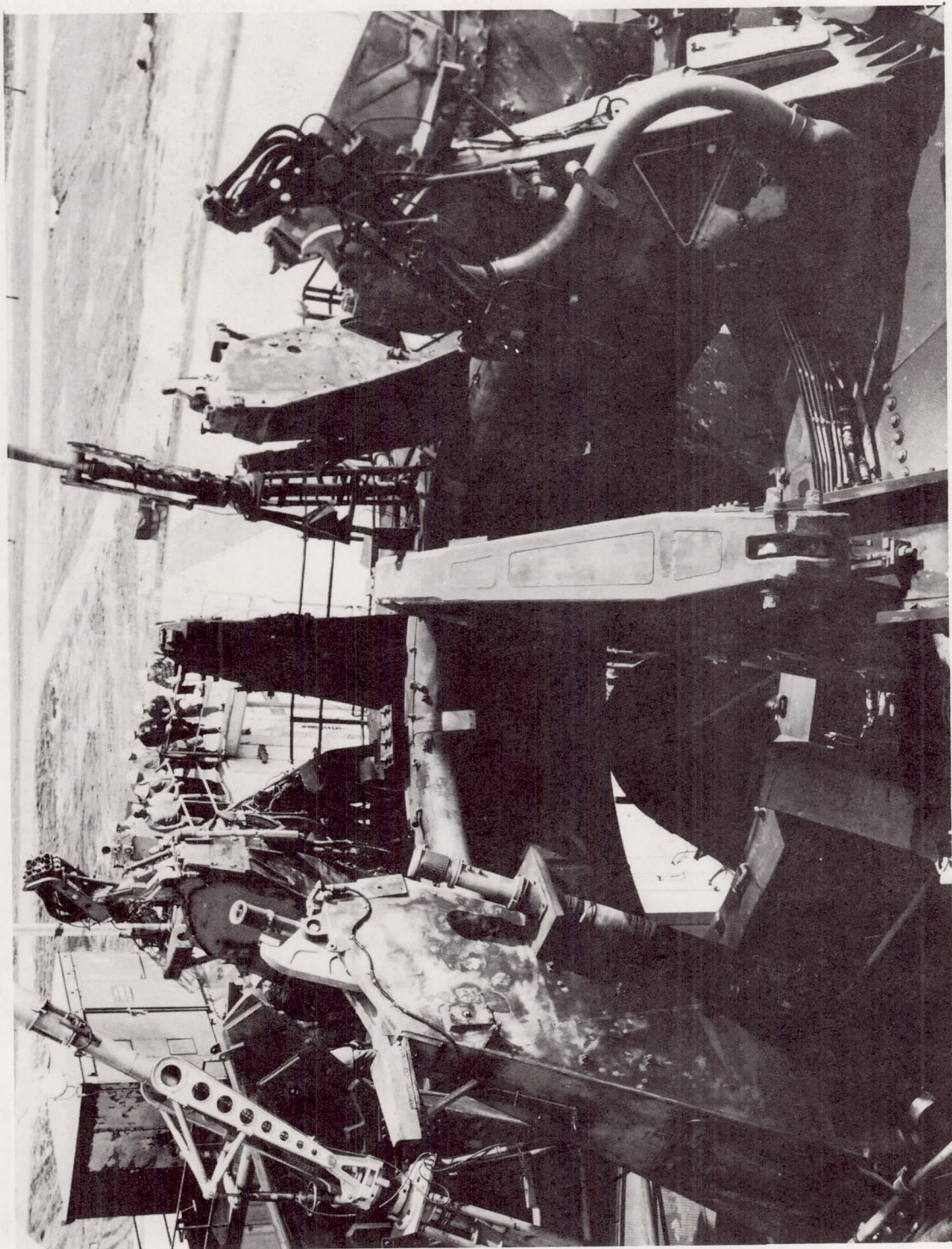


FIGURE 13. CLOSE UP SHOWING LAUNCHER ARMS

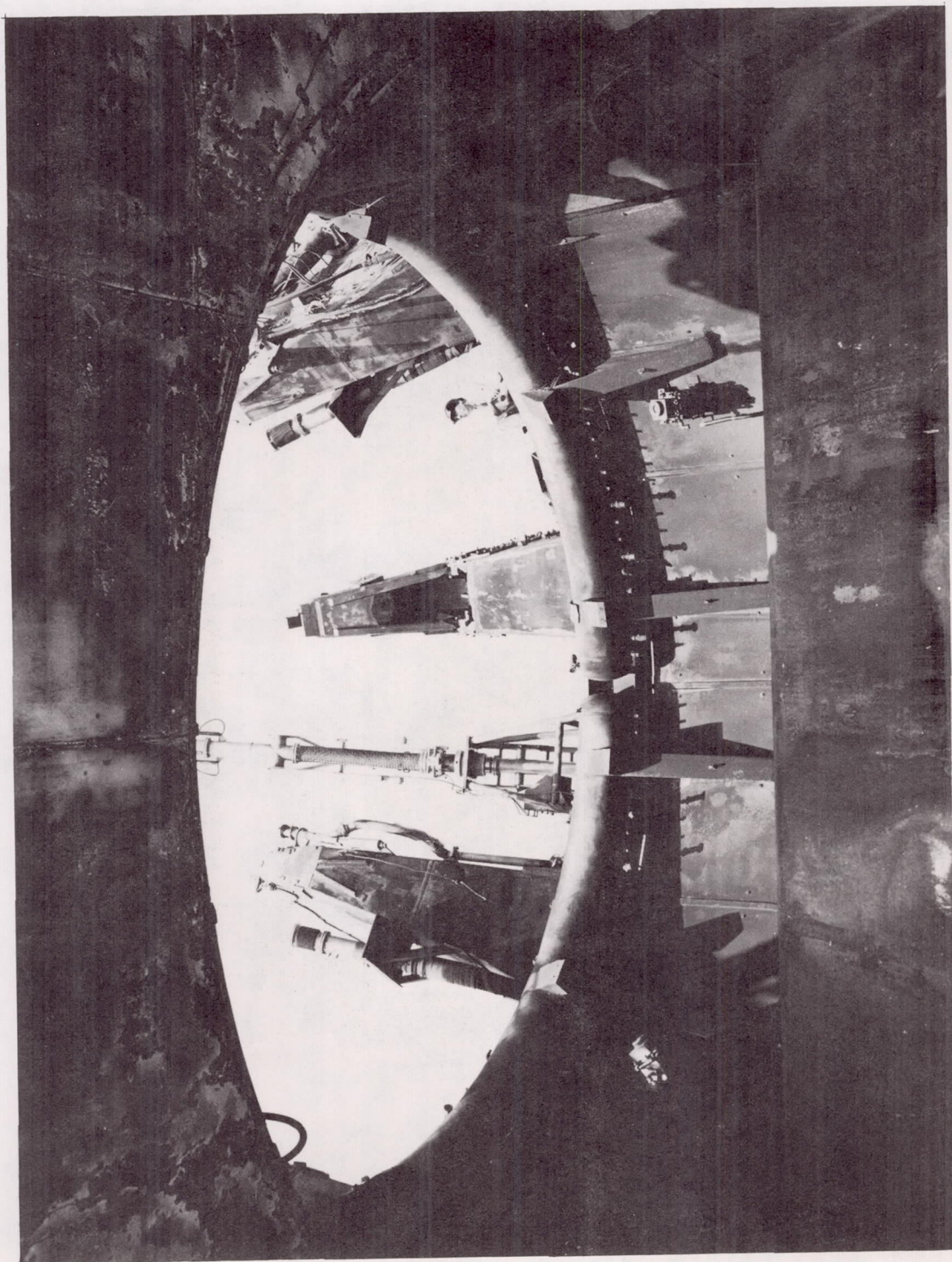


FIGURE 14. DR. DEBUS INSPECTING THE LAUNCH PAD
AFTER THE SA-1 LAUNCH

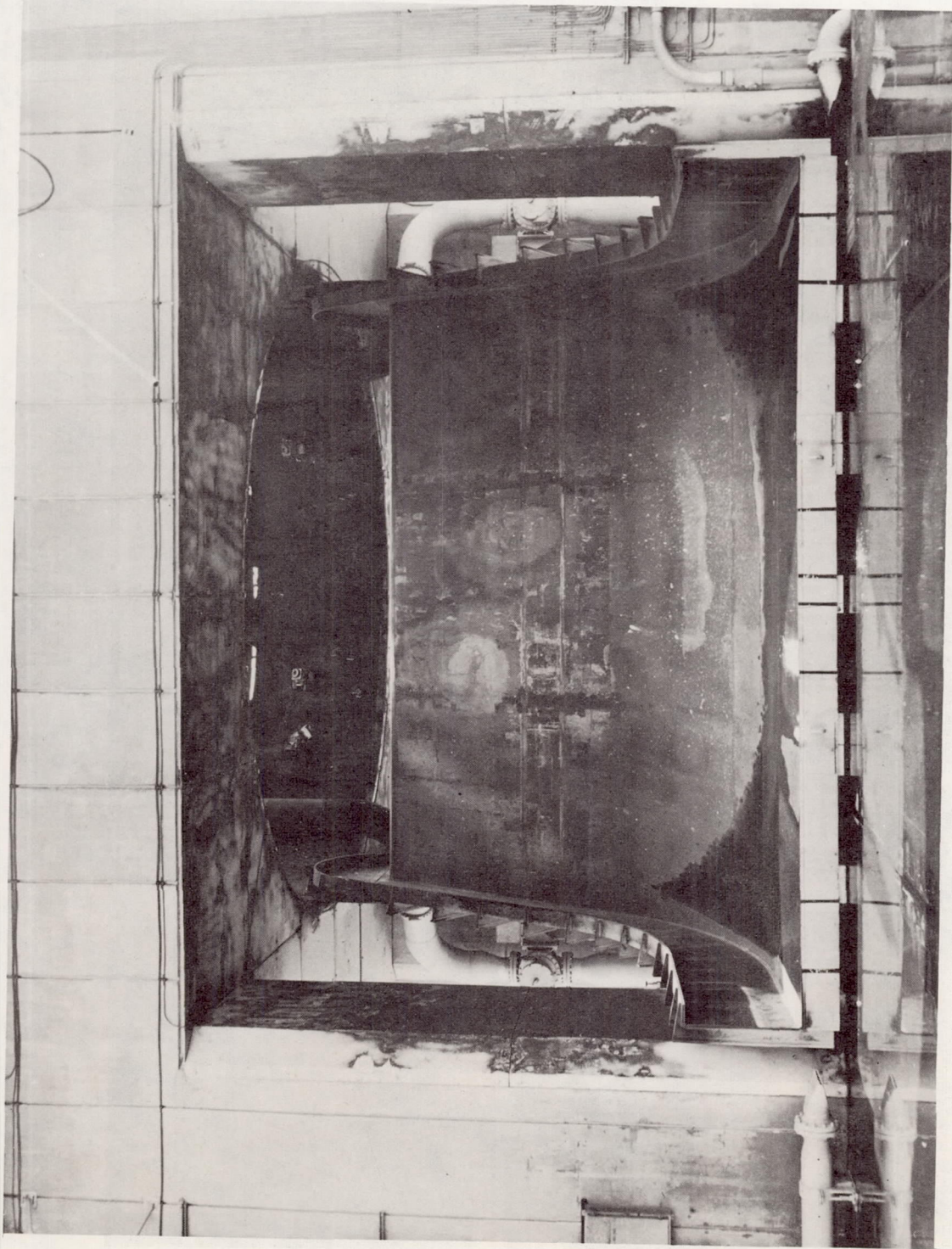


FIGURE 15. VLF 34 DEFLECTOR

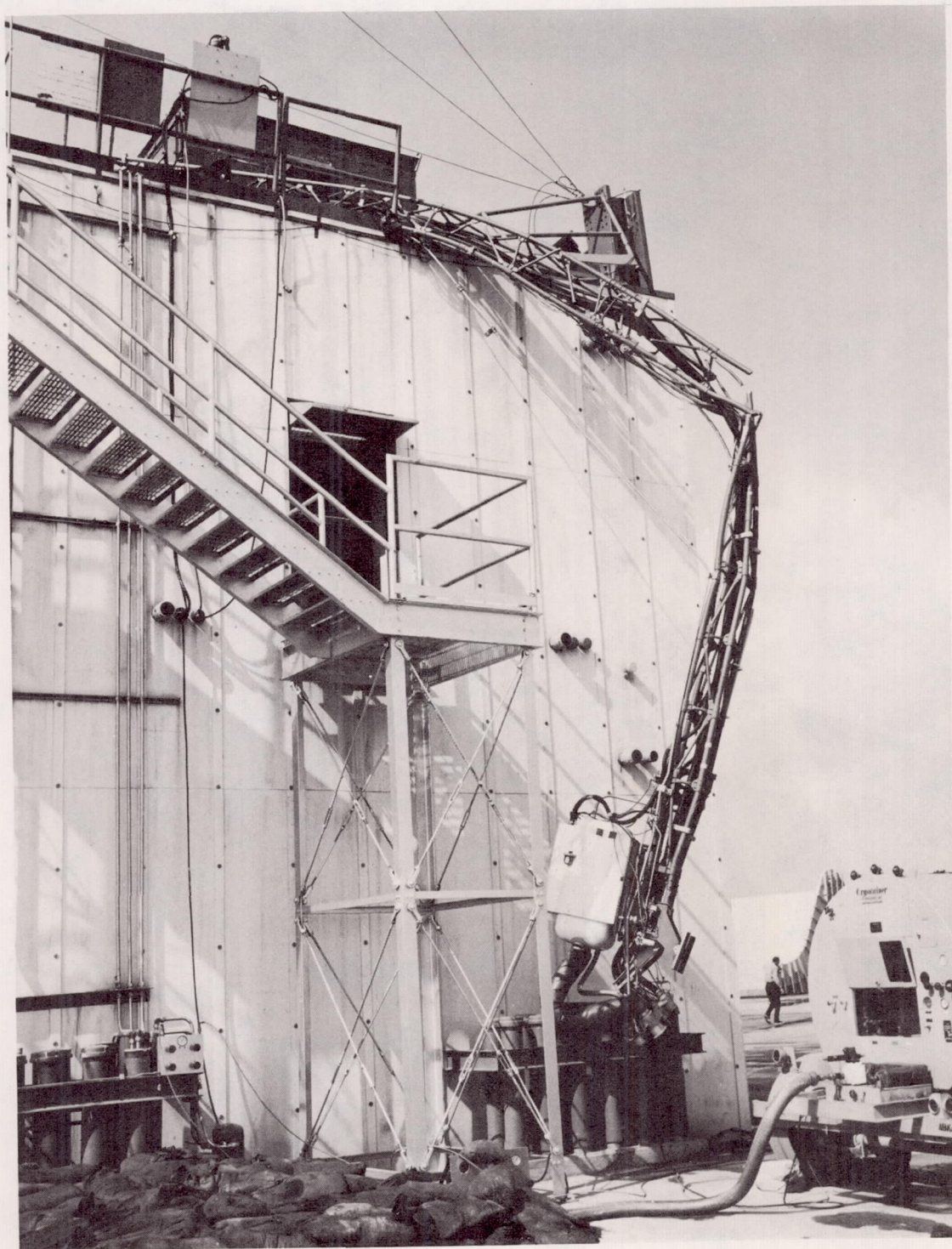


FIGURE 16. VIEW SHOWING DAMAGED LONG CABLE MAST

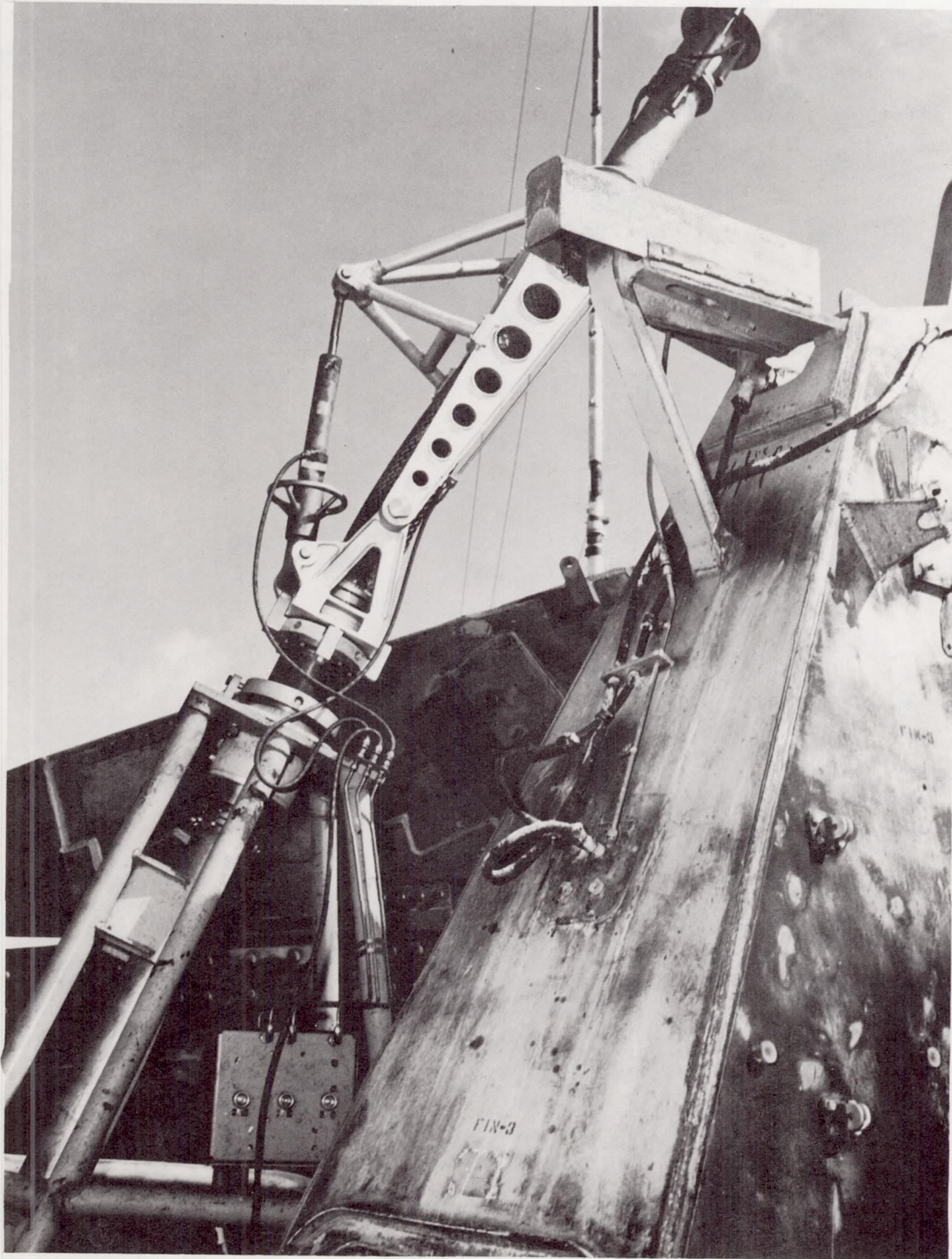


FIGURE 17. LOX FILL AND DRAIN MAST

VERTICAL LAUNCH FACILITY 37

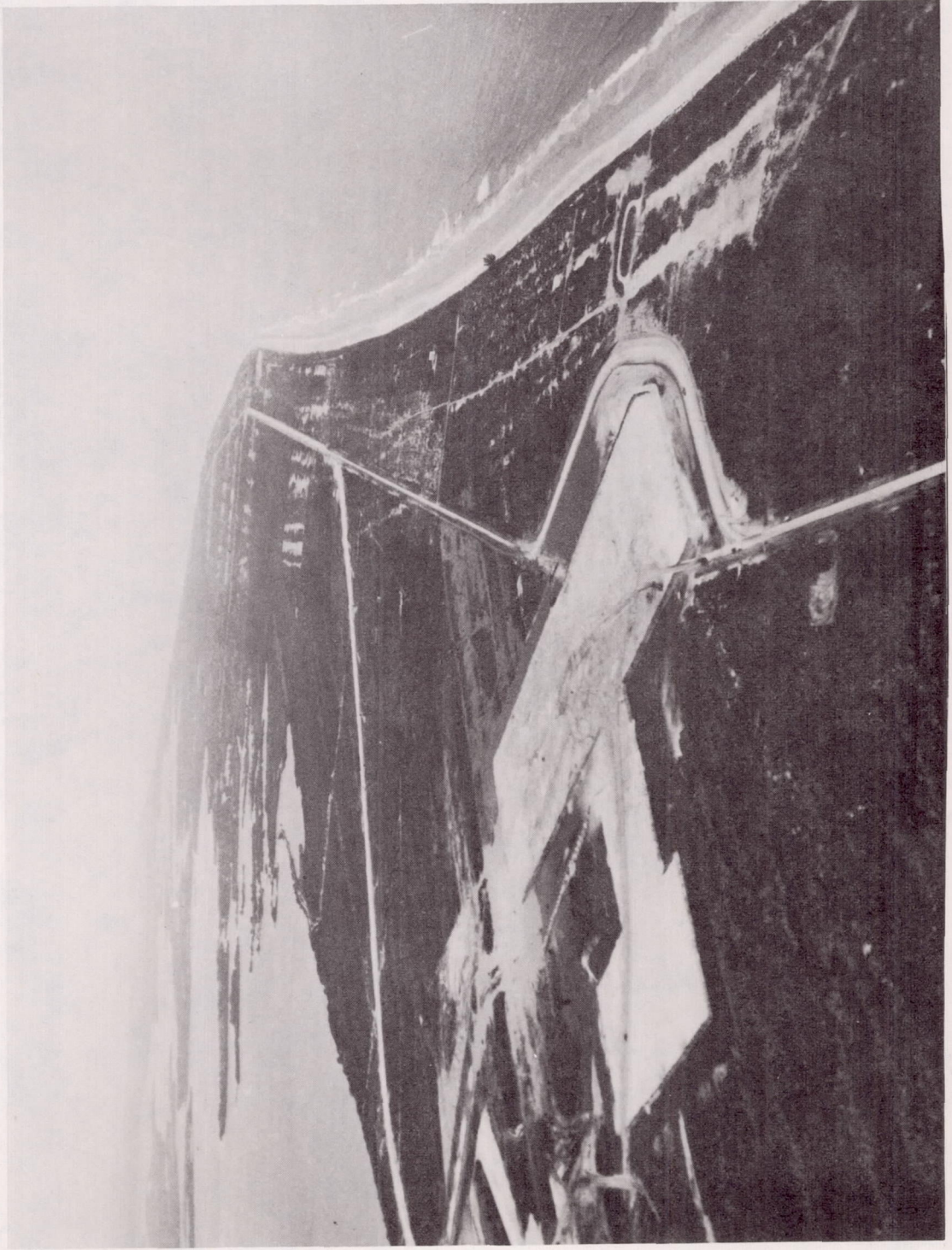


FIGURE 18. AERIAL VIEW OF THE VLF 37 COMPLEX

MODELS AND MOCK-UPS

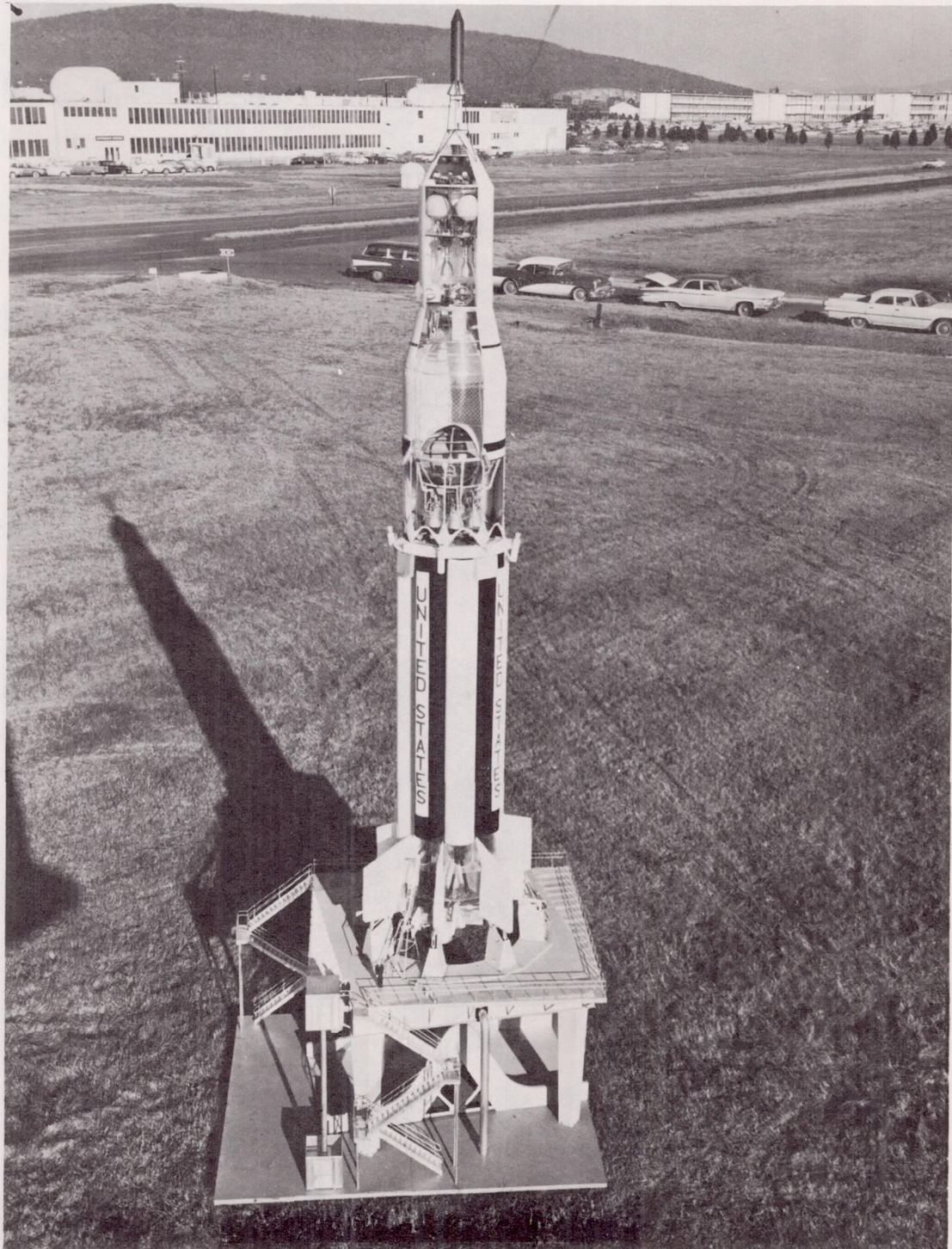


FIGURE 19. 1/10 SCALE C-1 VEHICLE WITH APOLLO CAPSULE

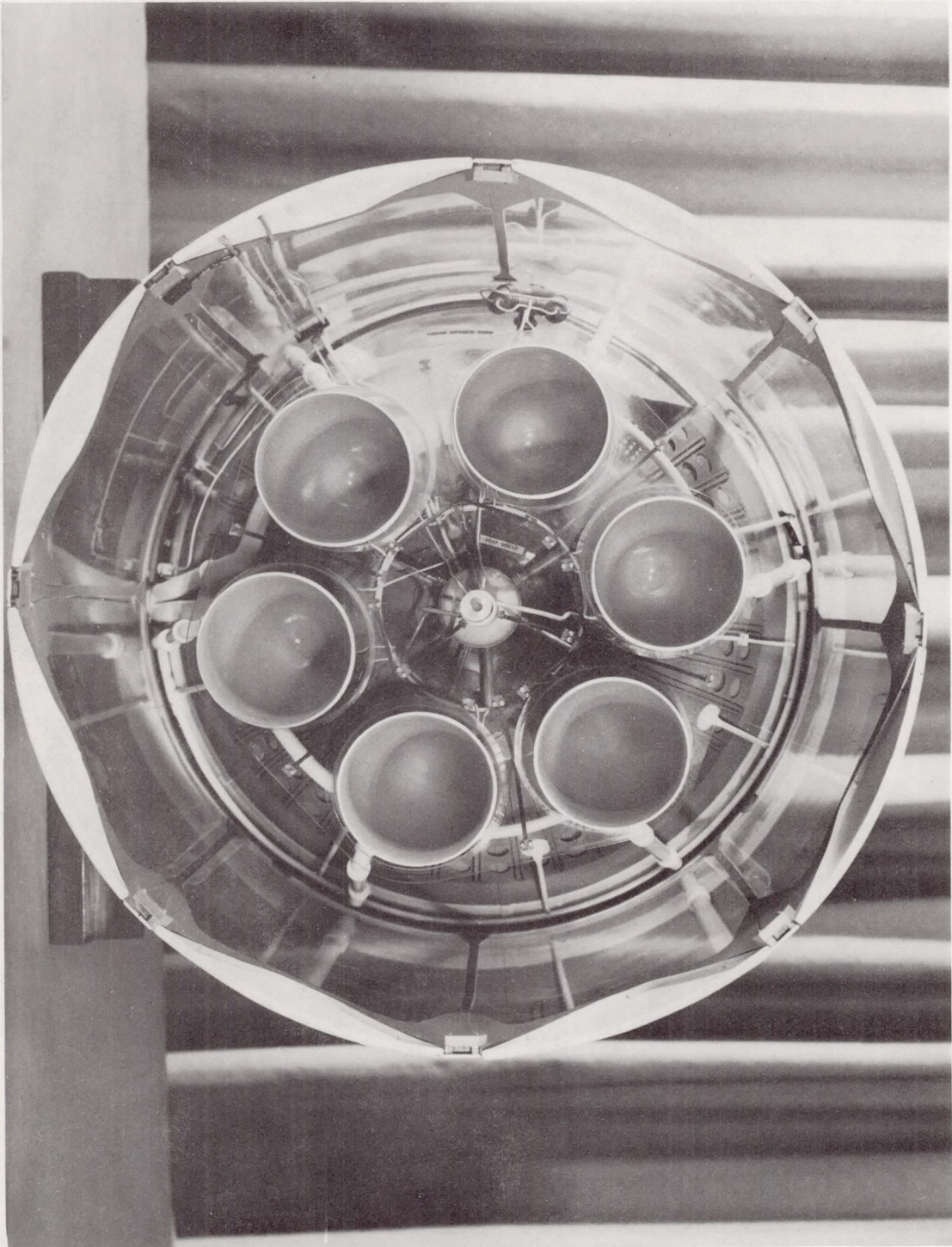


FIGURE 20. AFT VIEW OF DOUGLAS AIRCRAFT CO.
1/10 SCALE S-IV STAGE MODEL

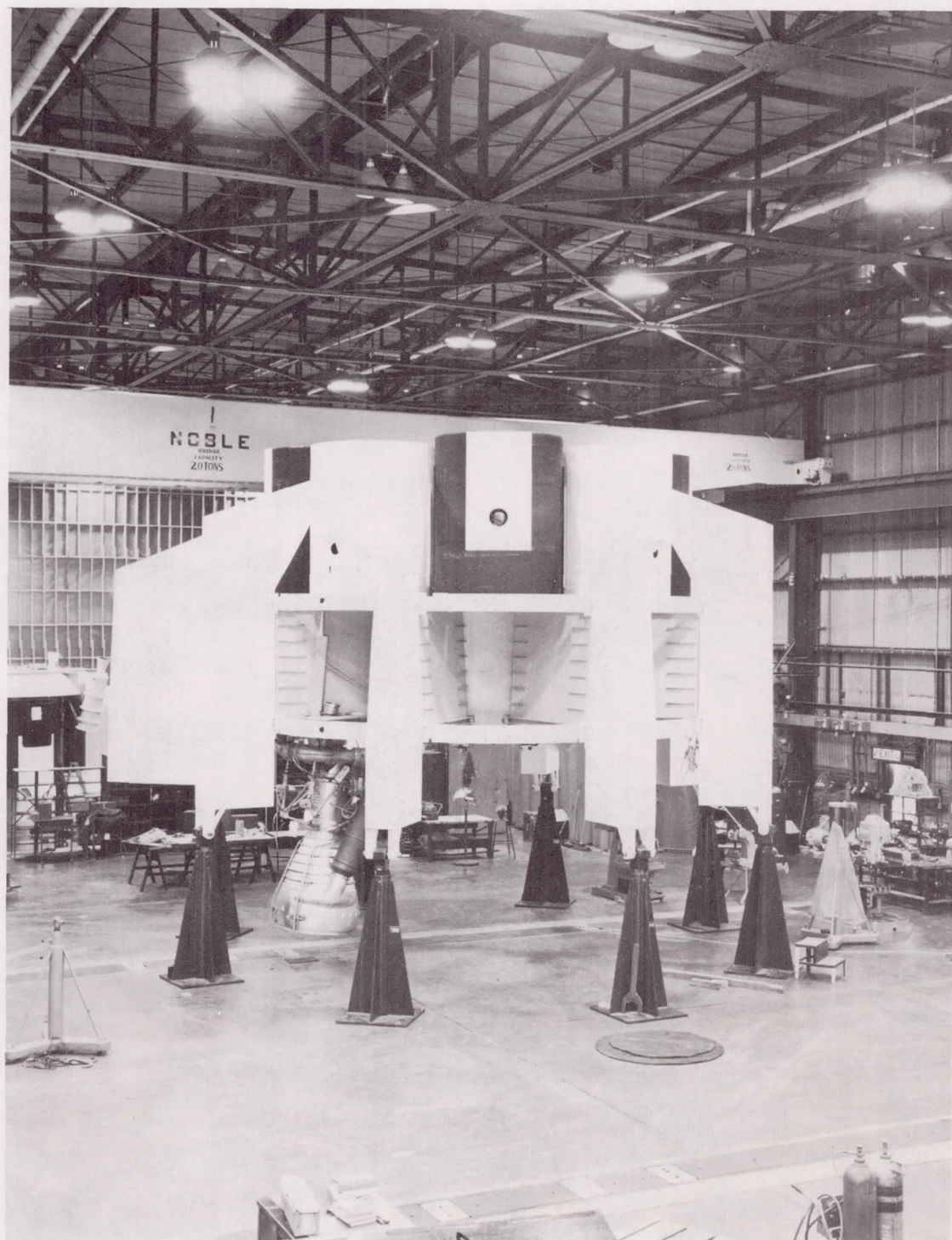


FIGURE 21. FULL SCALE SA-5 S-I STAGE
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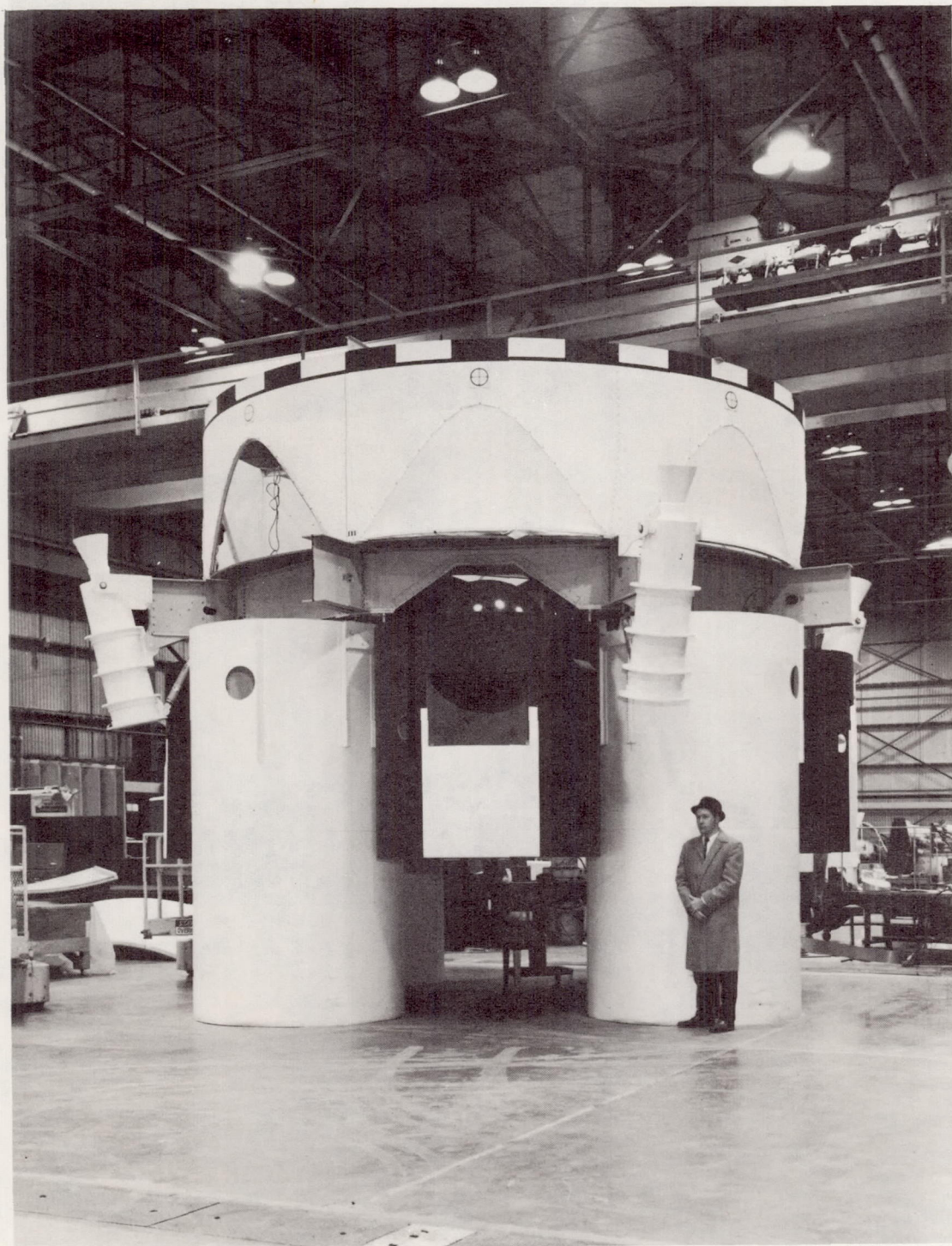


FIGURE 22. FULL SCALE SA-5 FORWARD AREA S-I STAGE
MOCK-UP WITH DAC S-IV STAGE AFT MATING MOCK-UP

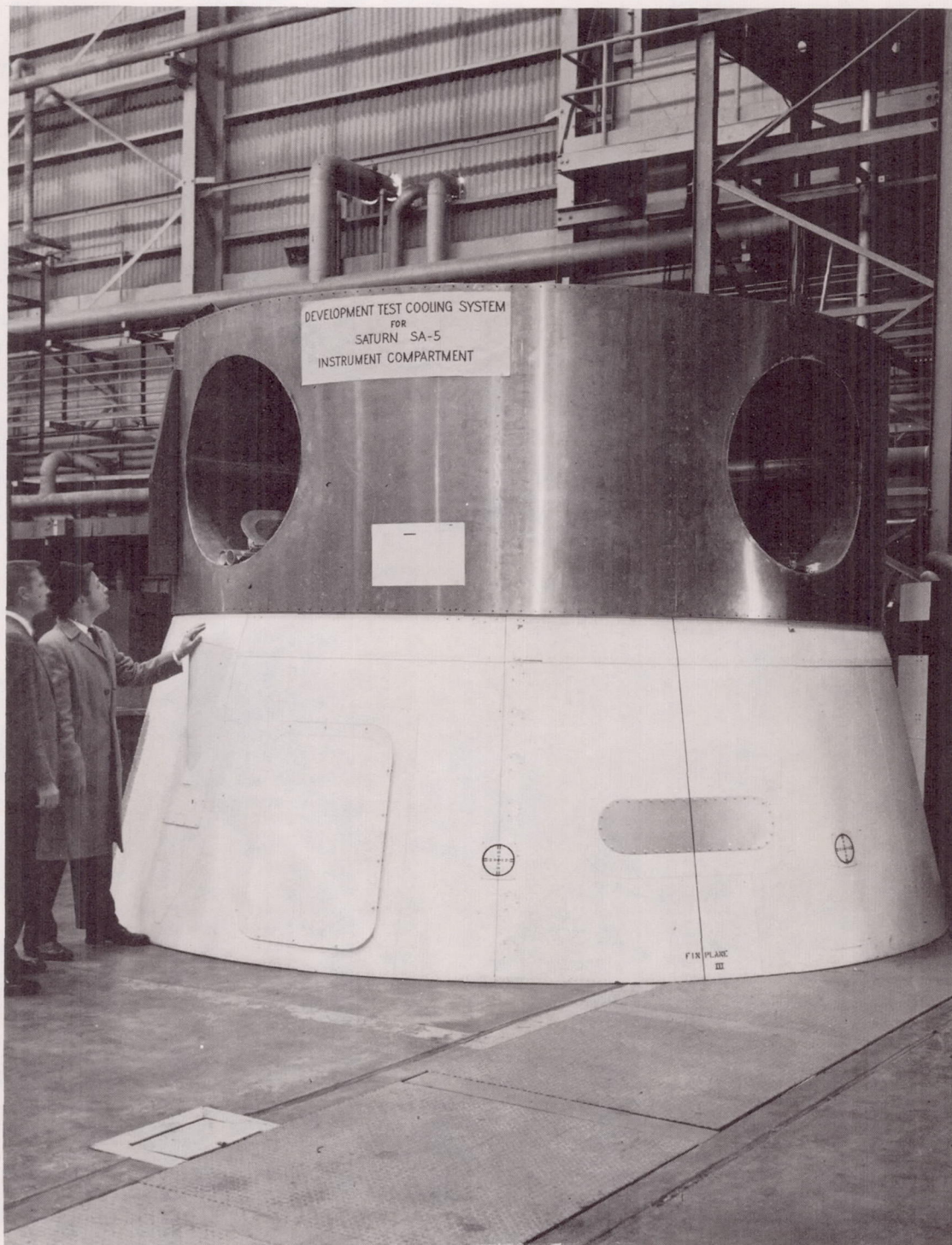


FIGURE 23. DAC S-IV STAGE FORWARD MATING MOCK-UP
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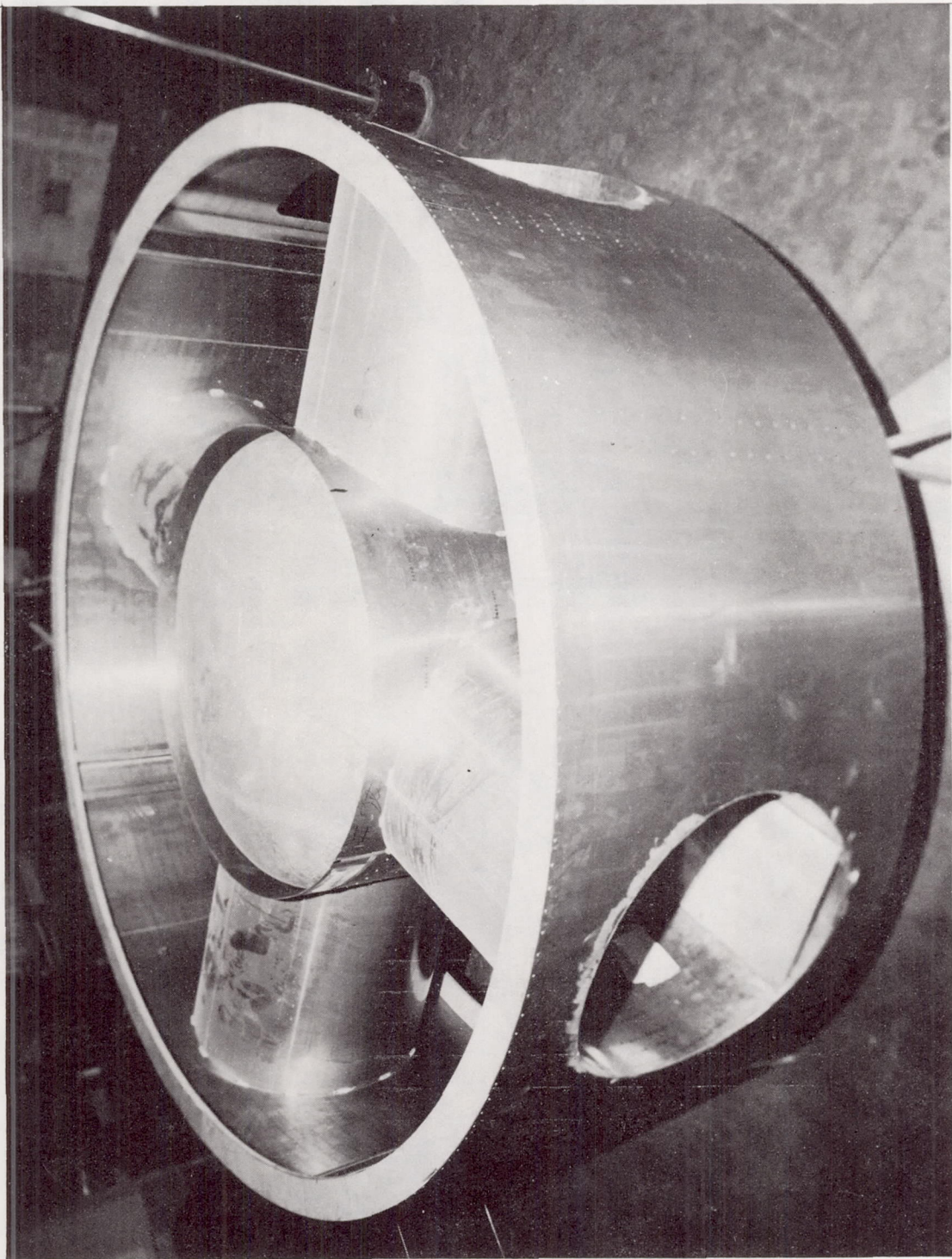


FIGURE 24. INSTRUMENT COMPARTMENT MOCK-UP

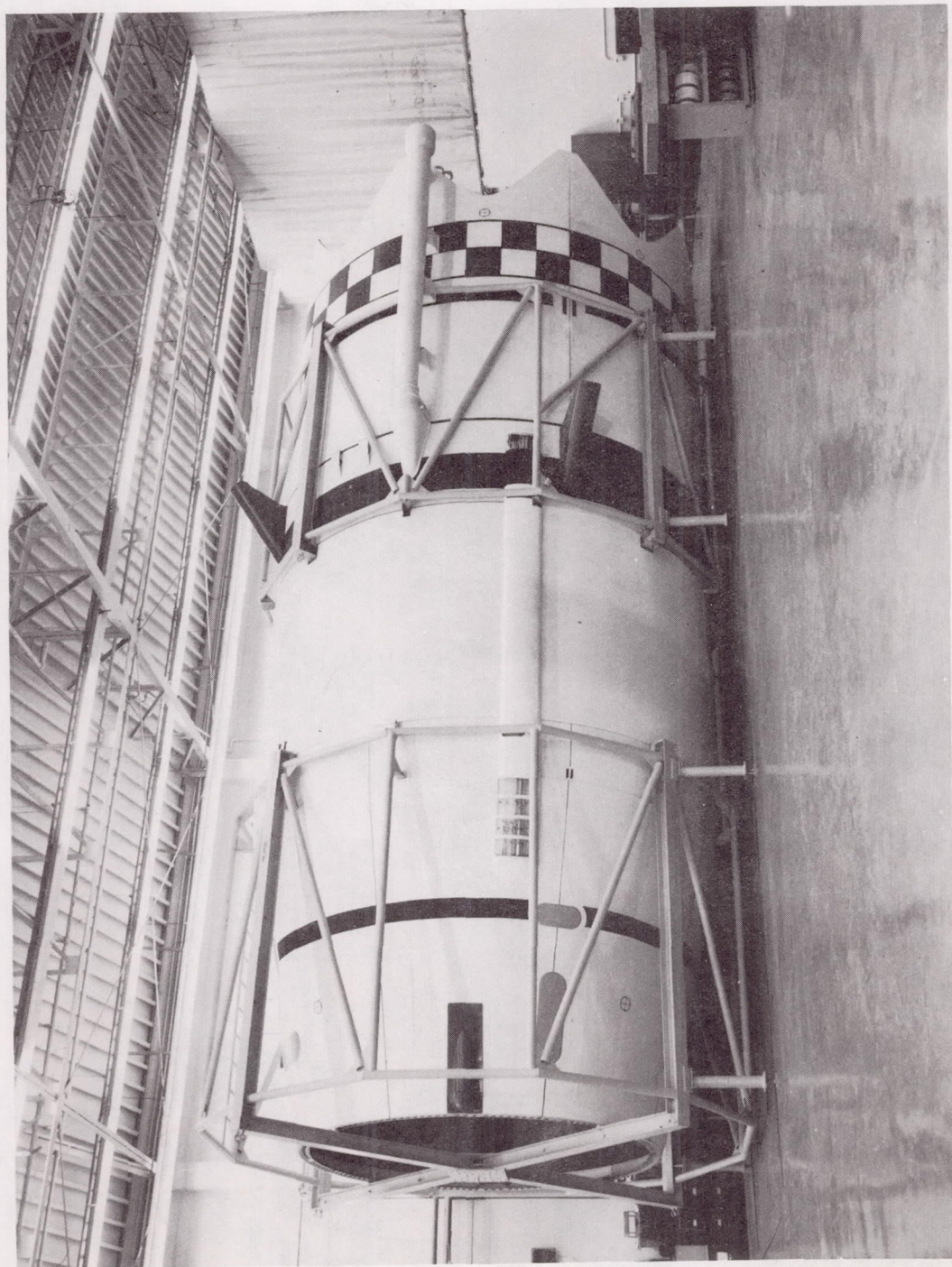


FIGURE 25. DAC S-IV FULL SCALE MOCK-UP



FIGURE 26. DAC S-IV FULL SCALE MOCK-UP

LABORATORY FACILITIES OF THE
MARSHALL SPACE FLIGHT CENTER

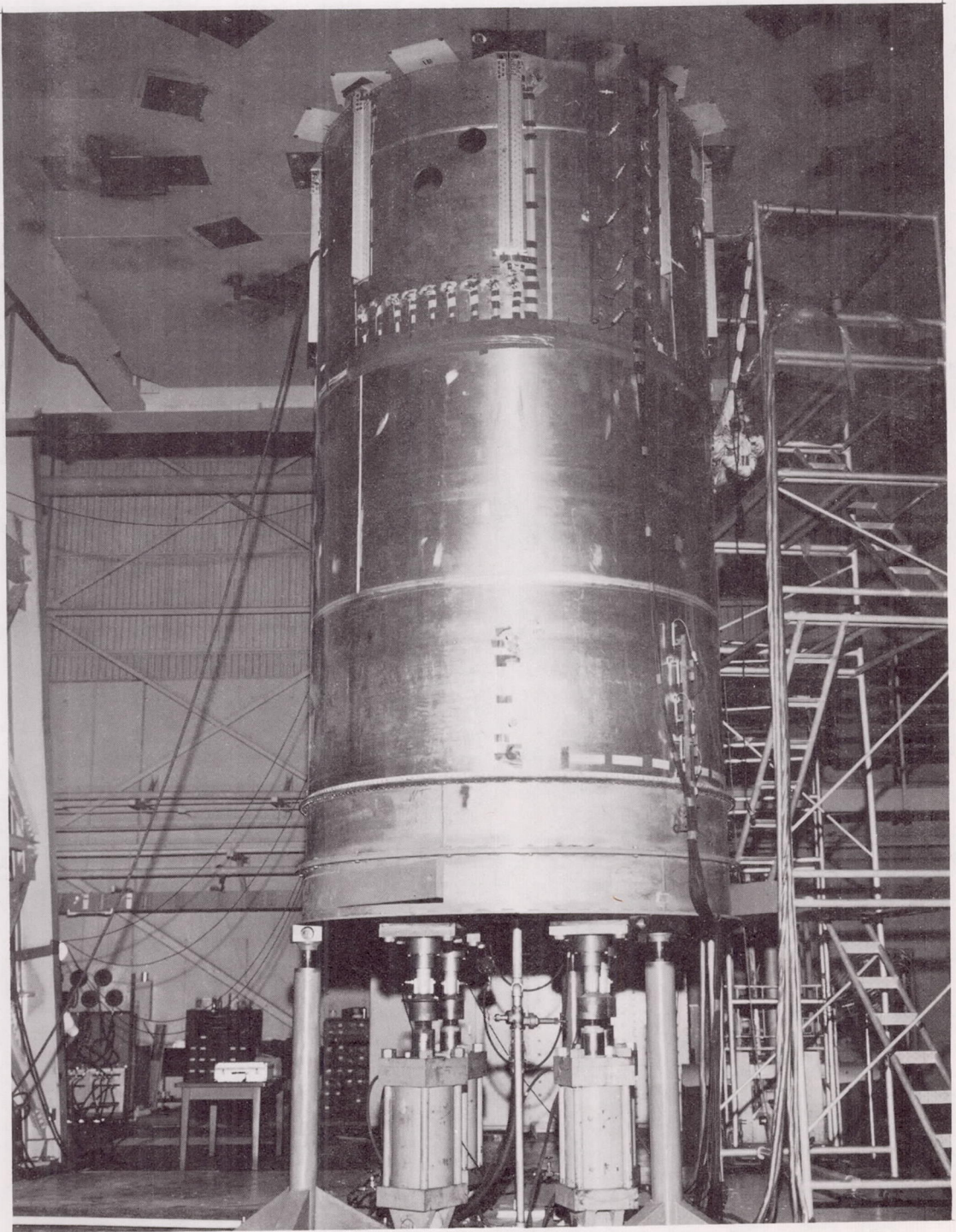


FIGURE 27. LOAD TEST ON 105" DIAMETER LOX TANK

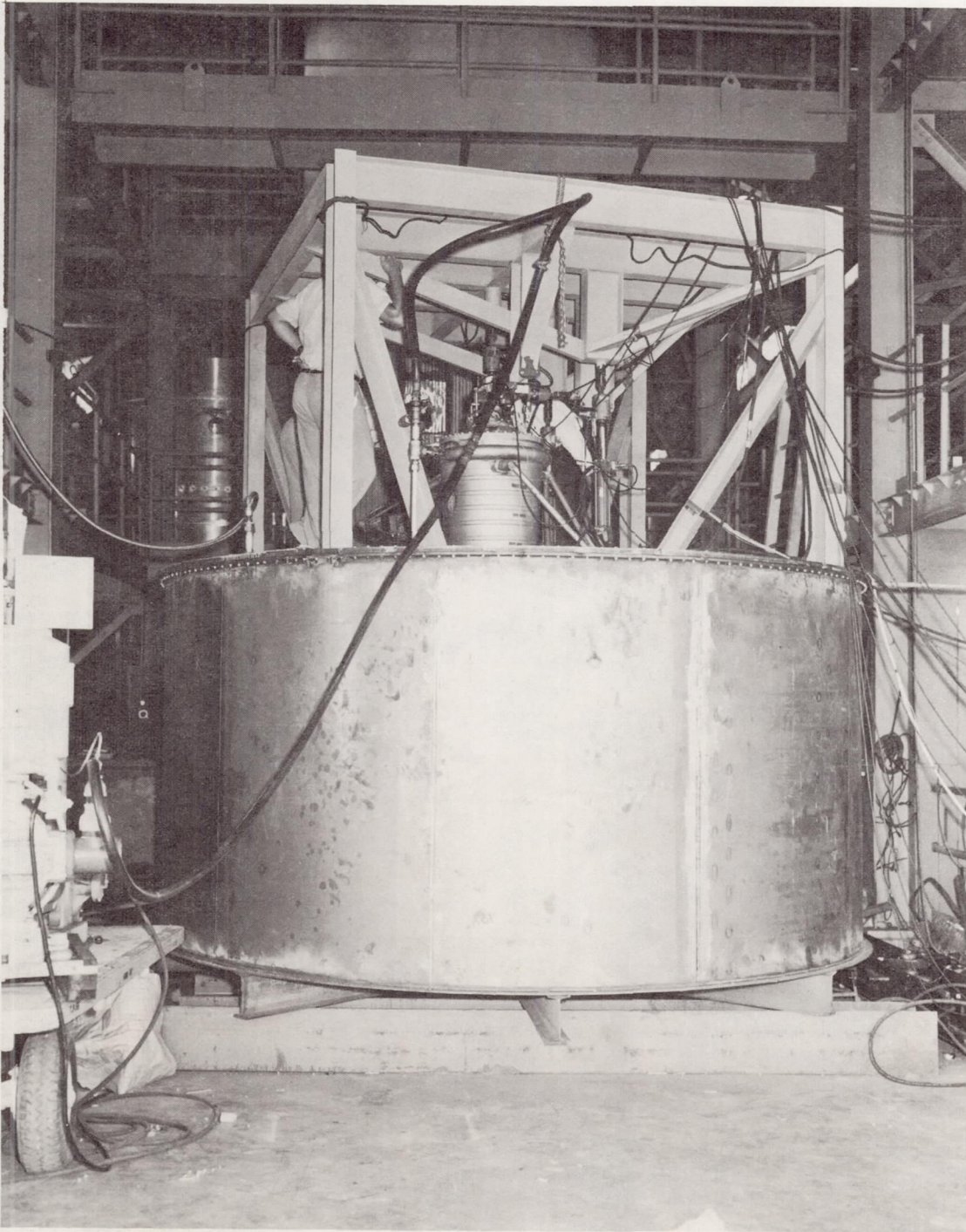


FIGURE 28. TEST SET-UP TO DETERMINE GIMBAL LOADS
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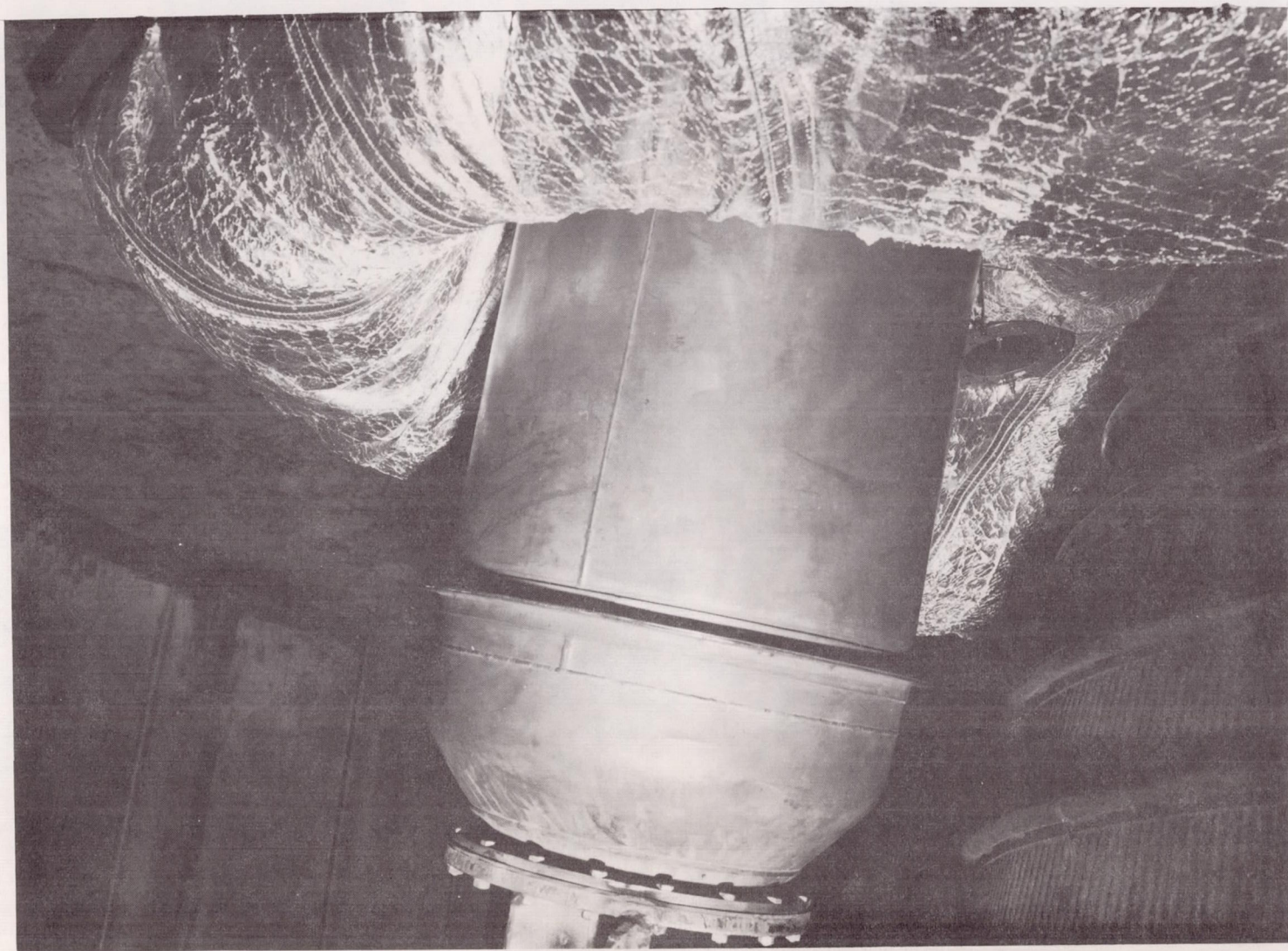


FIGURE 29. VIEW SHOWING AFT SURFACE OF REFLECTIVE
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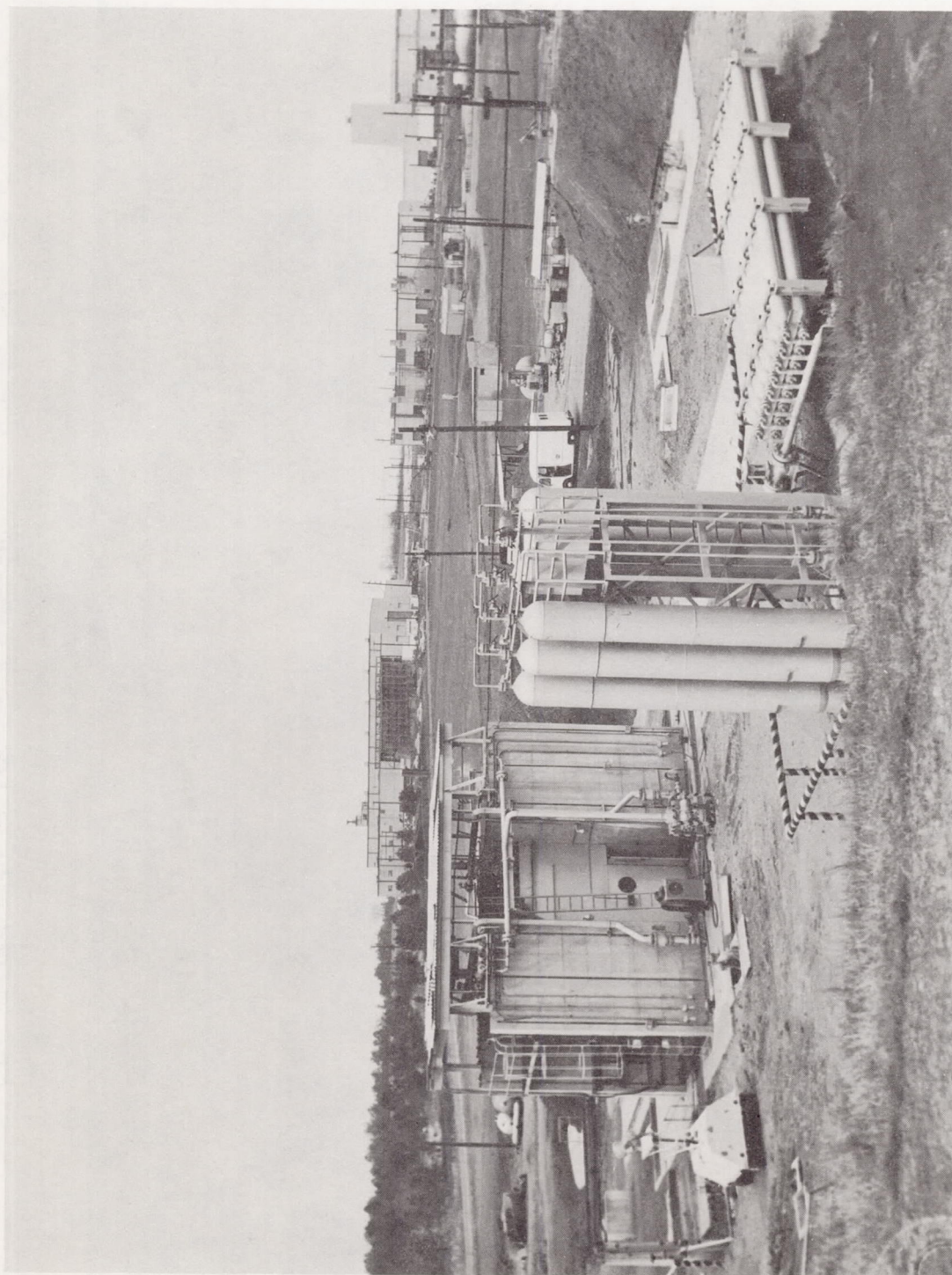


FIGURE 30. HYDROGEN TEST AREA

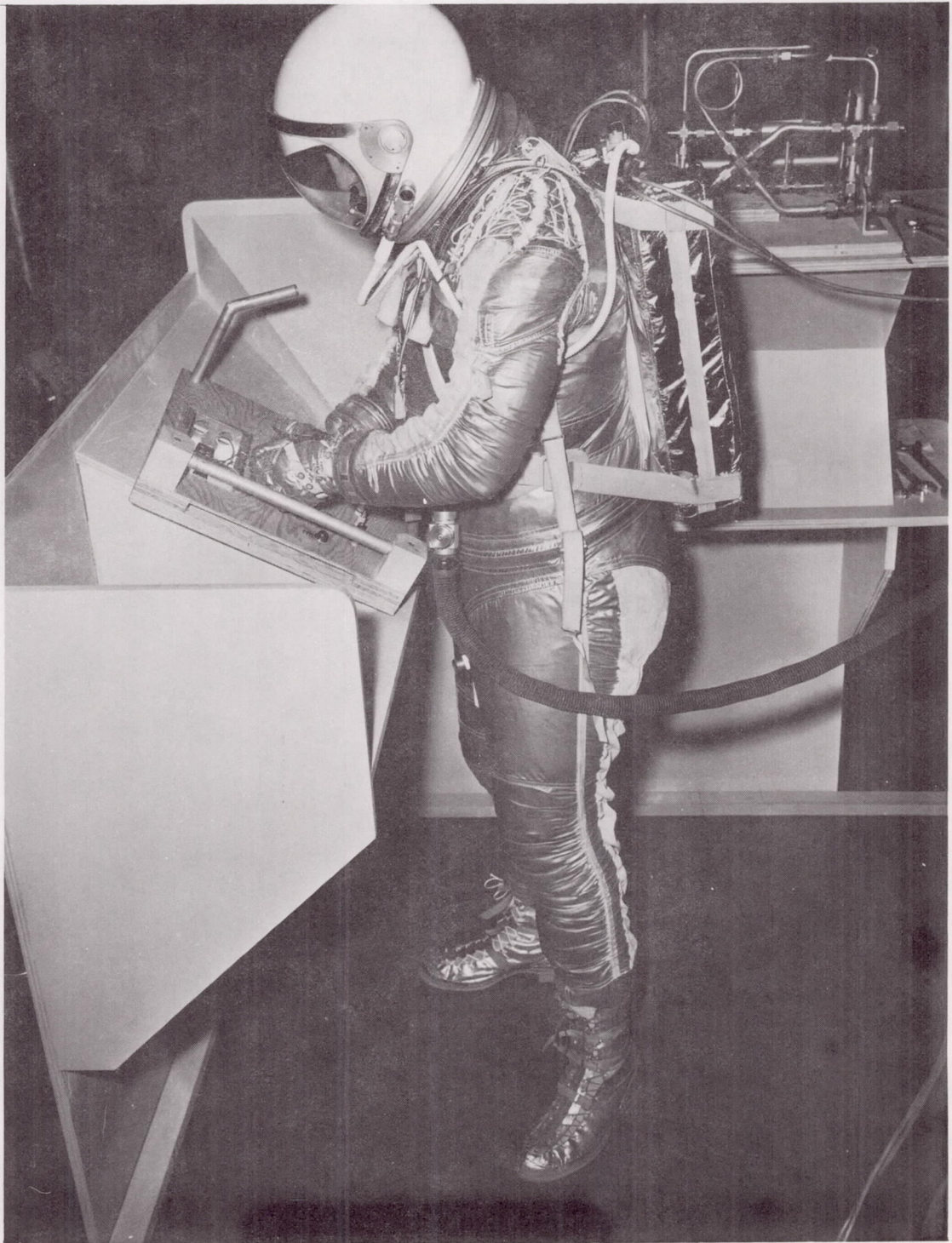


FIGURE 31. SPACE MAINTENANCE RESEARCH STUDY TO
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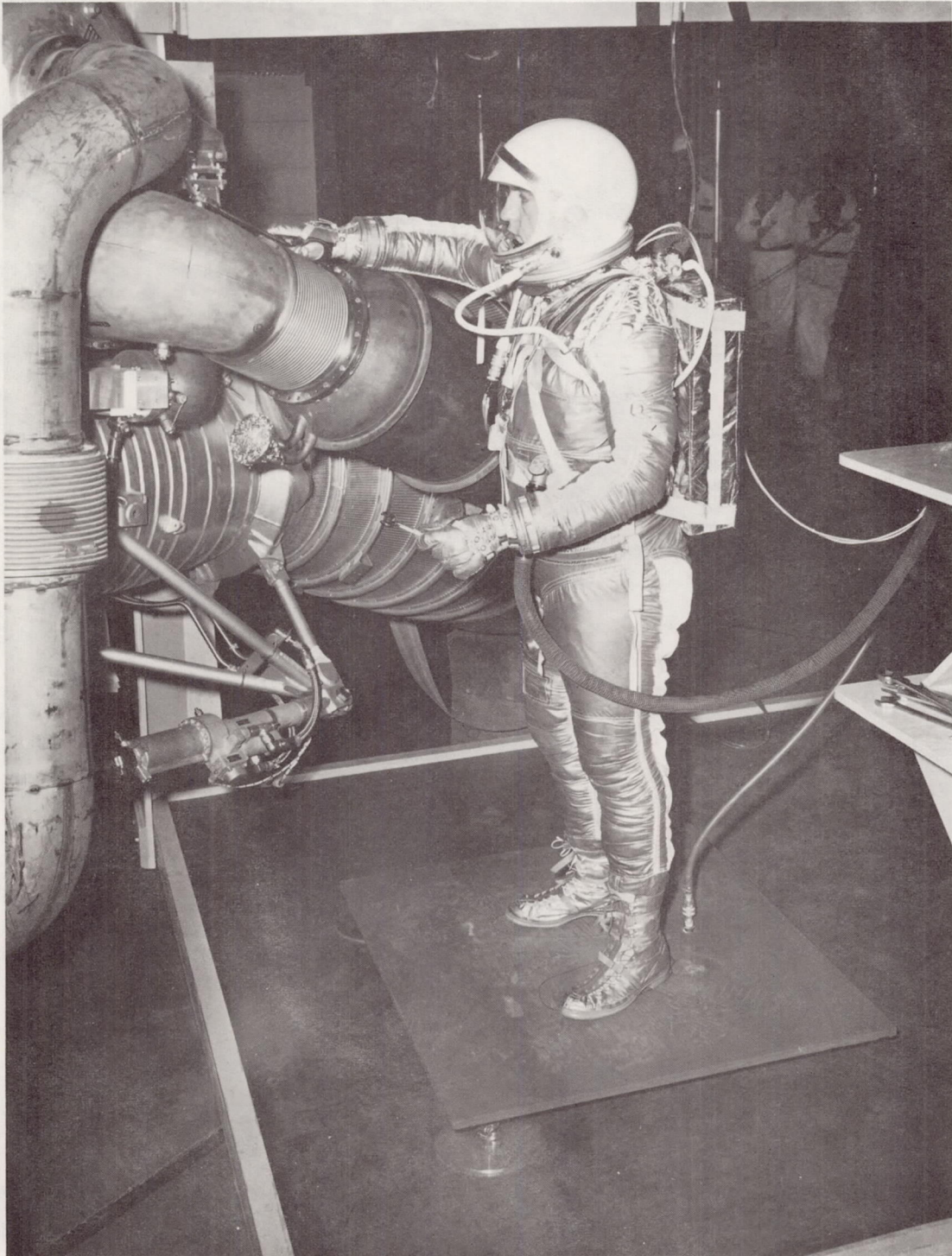


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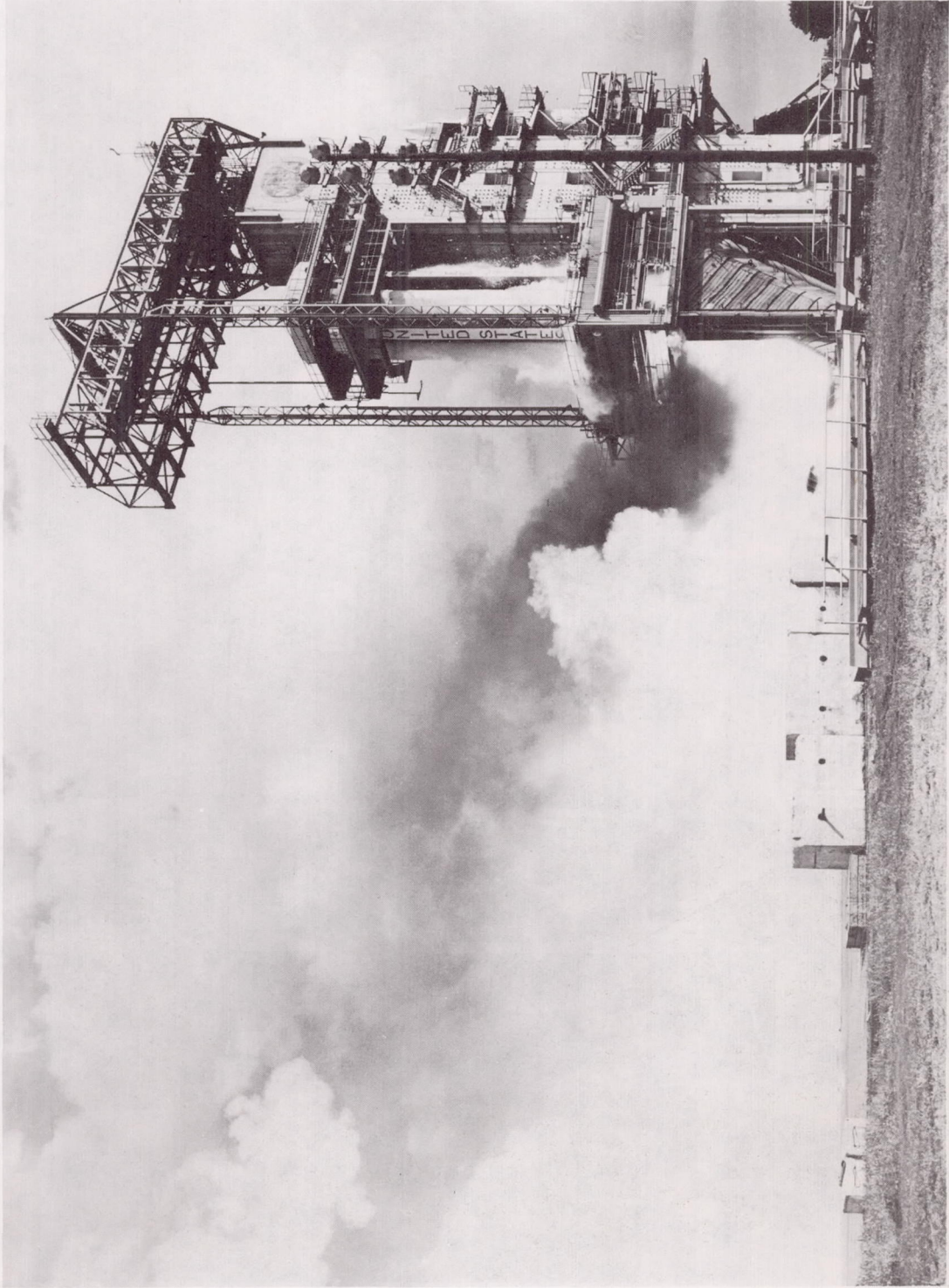


FIGURE 33. SA-1 STATIC FIRING

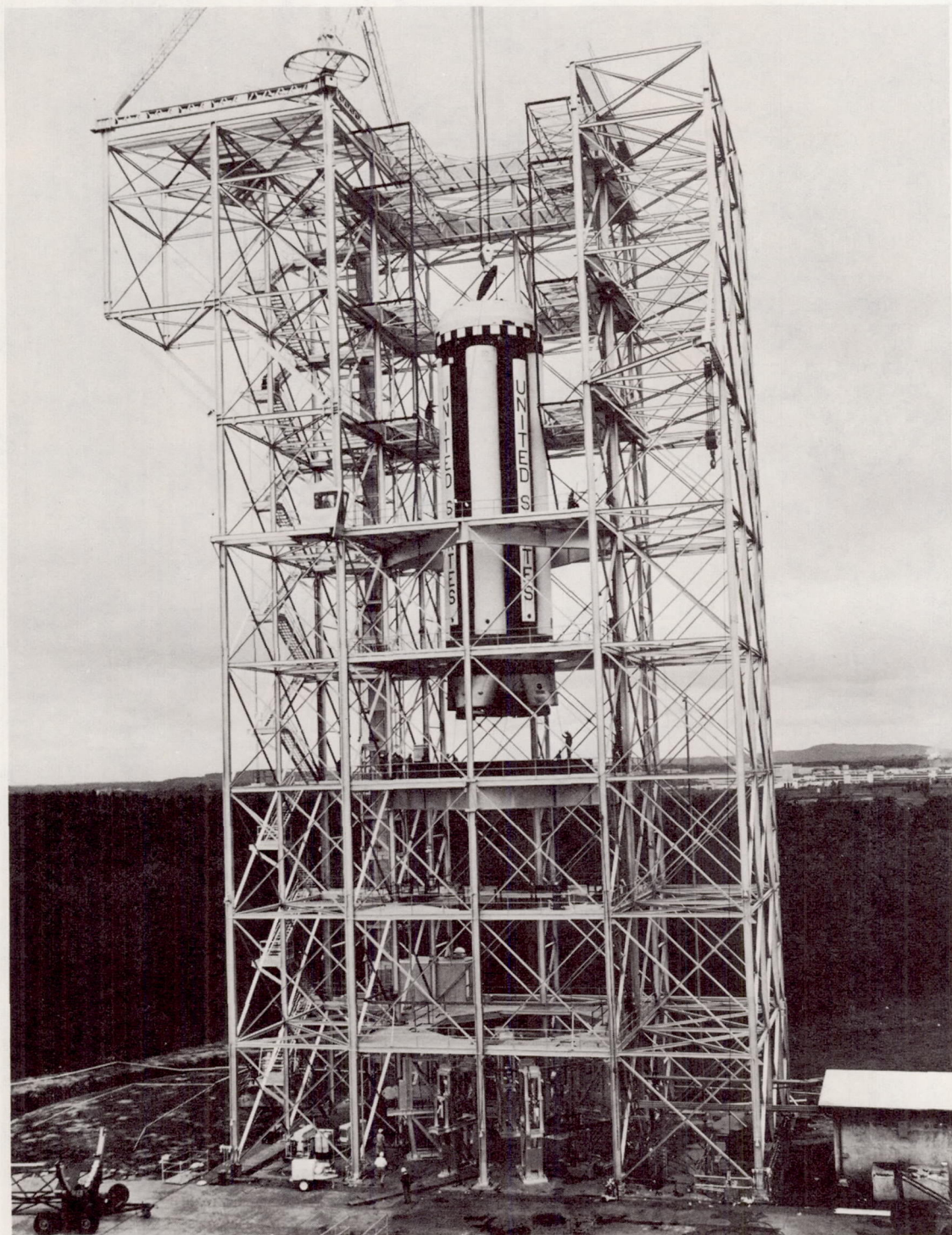


FIGURE 34. S-I STAGE BEING LOWERED INTO
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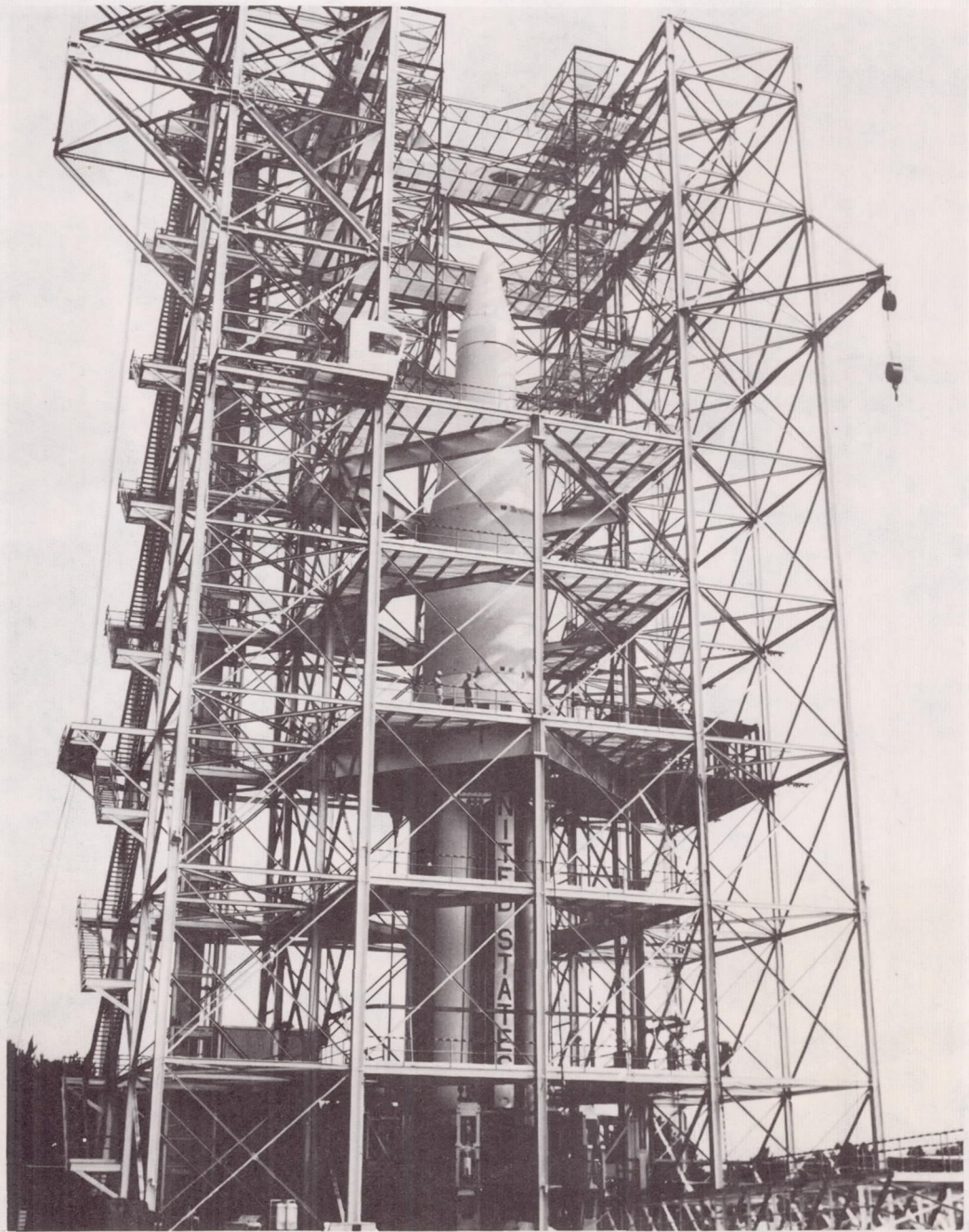


FIGURE 35. COMPLETED VEHICLE IN DYNAMIC TEST STAND

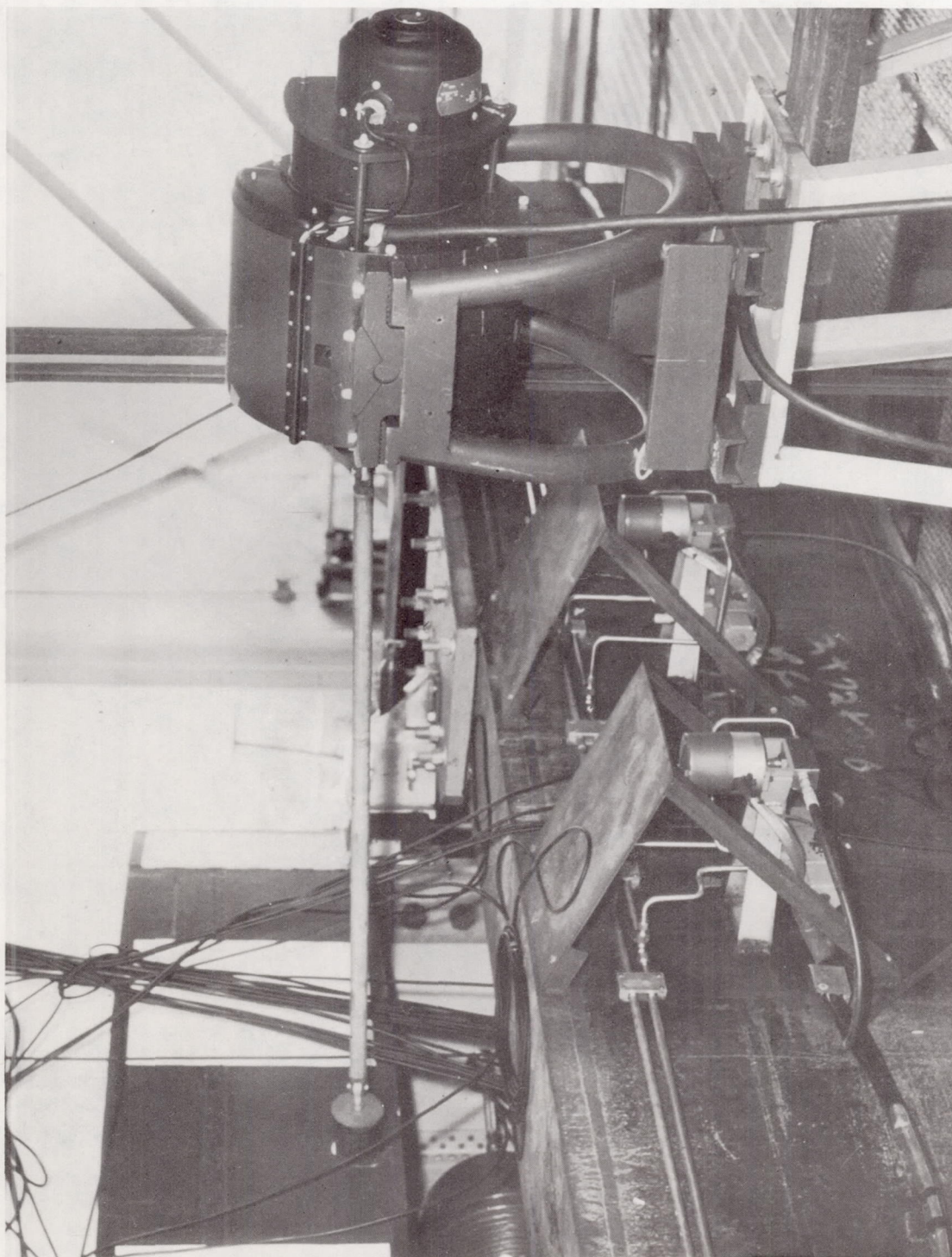


FIGURE 36. SHAKER TEST SET-UP IN DYNAMIC TOWER

SA-2, SA-3, AND SA-4 LAUNCH VEHICLES

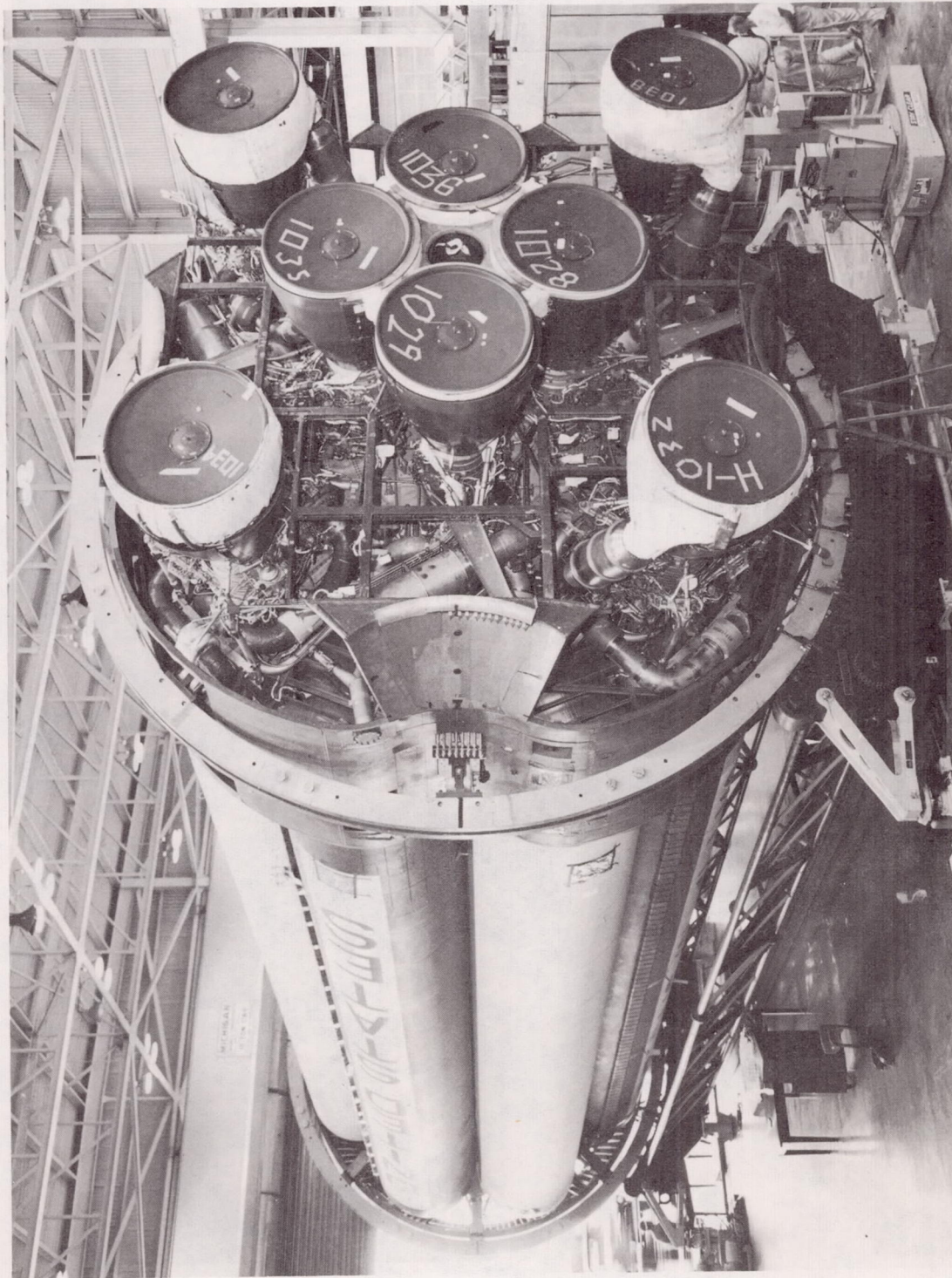


FIGURE 37. SA-2 BOOSTER AT QUALITY DIVISION

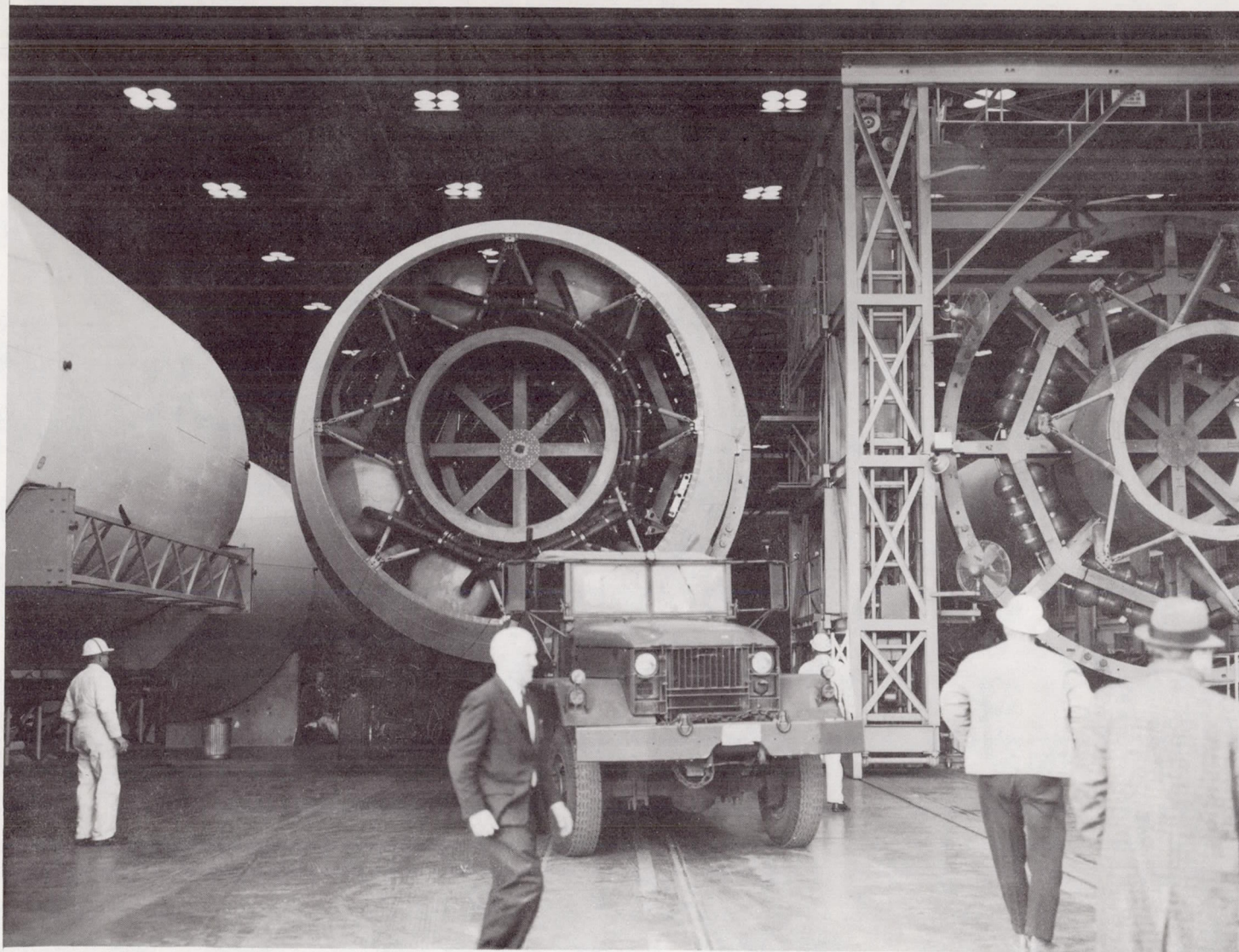


FIGURE 38. COMPLETED SA-3 VEHICLE BEING ROLLED PAST
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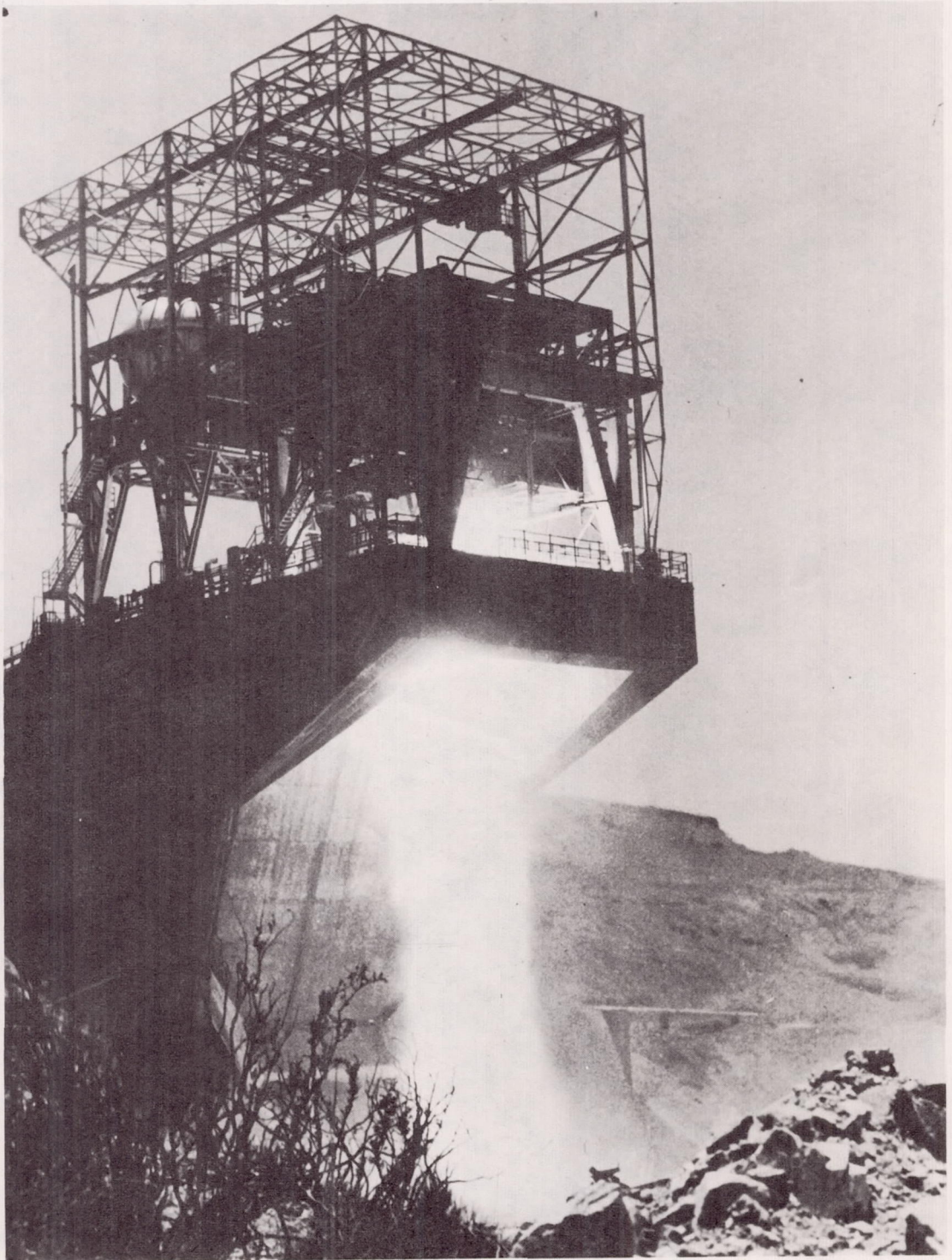


FIGURE 39. 1,500,000 POUND THRUST F-1 ENGINE STATIC FIRING

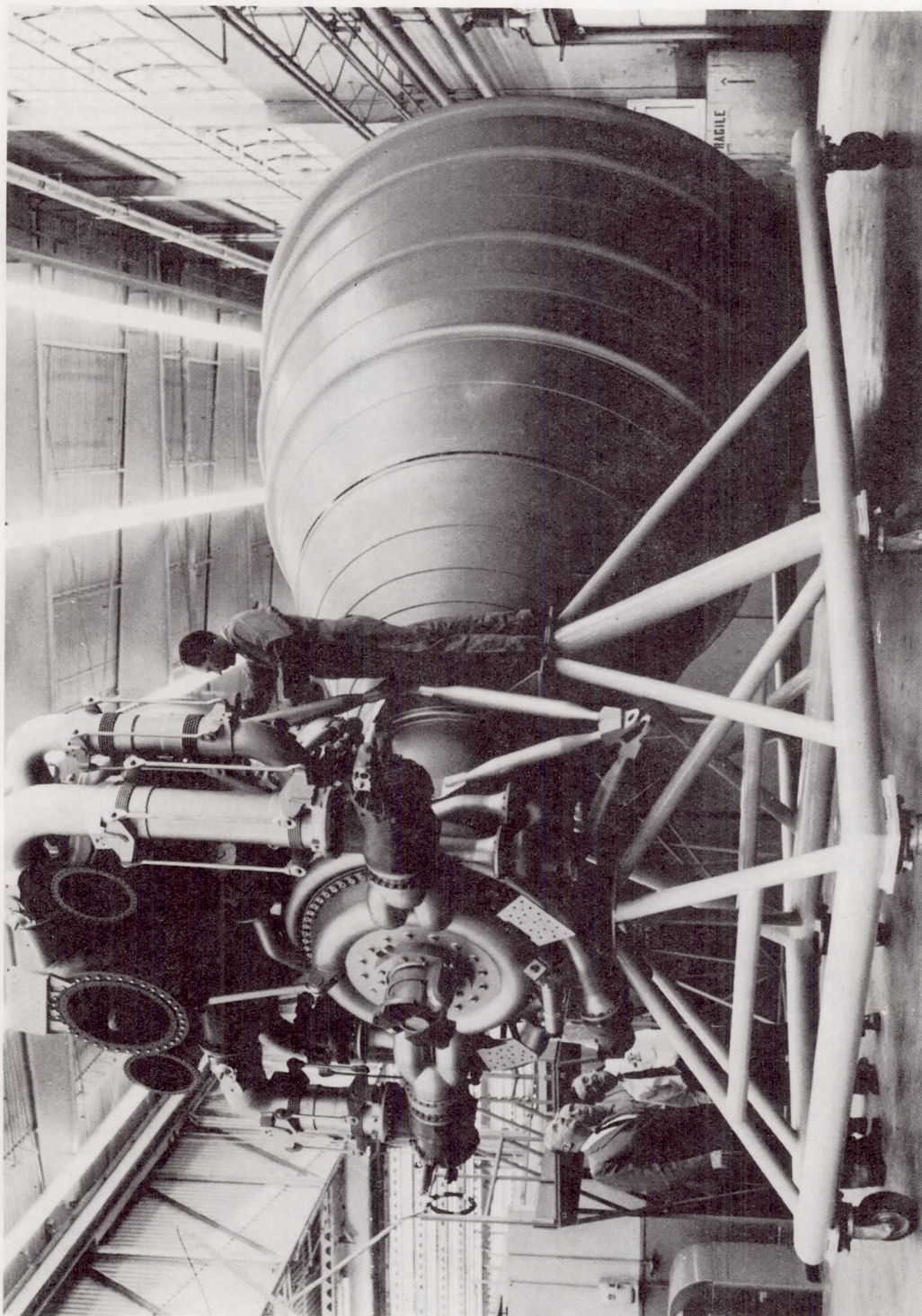


FIGURE 40. F-1 ENGINE MOCK-UP

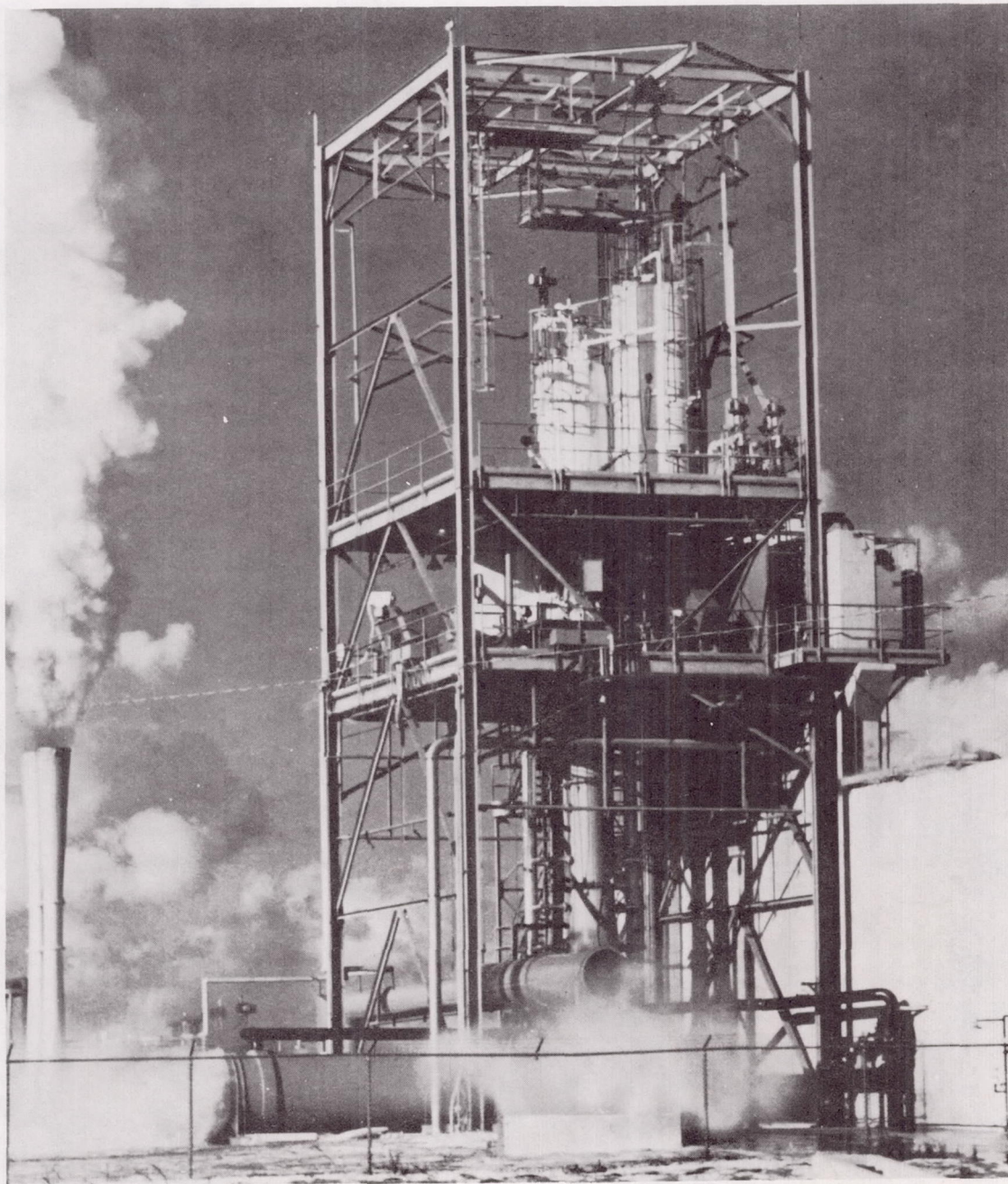


FIGURE 41. STATIC FIRING OF THE RL 10 HYDROGEN ENGINE
(THIS TYPE TO BE USED ON S-IV STAGE)

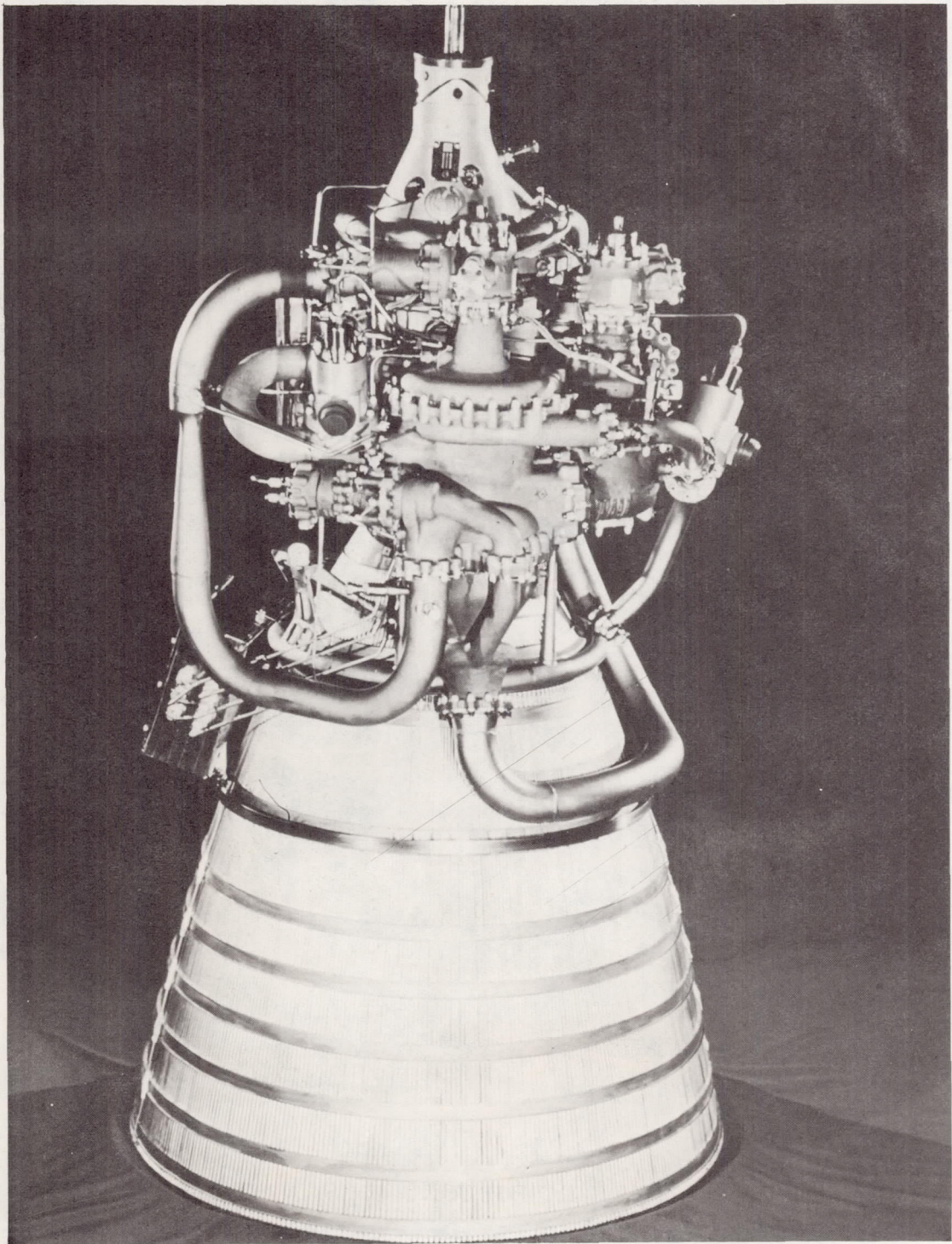


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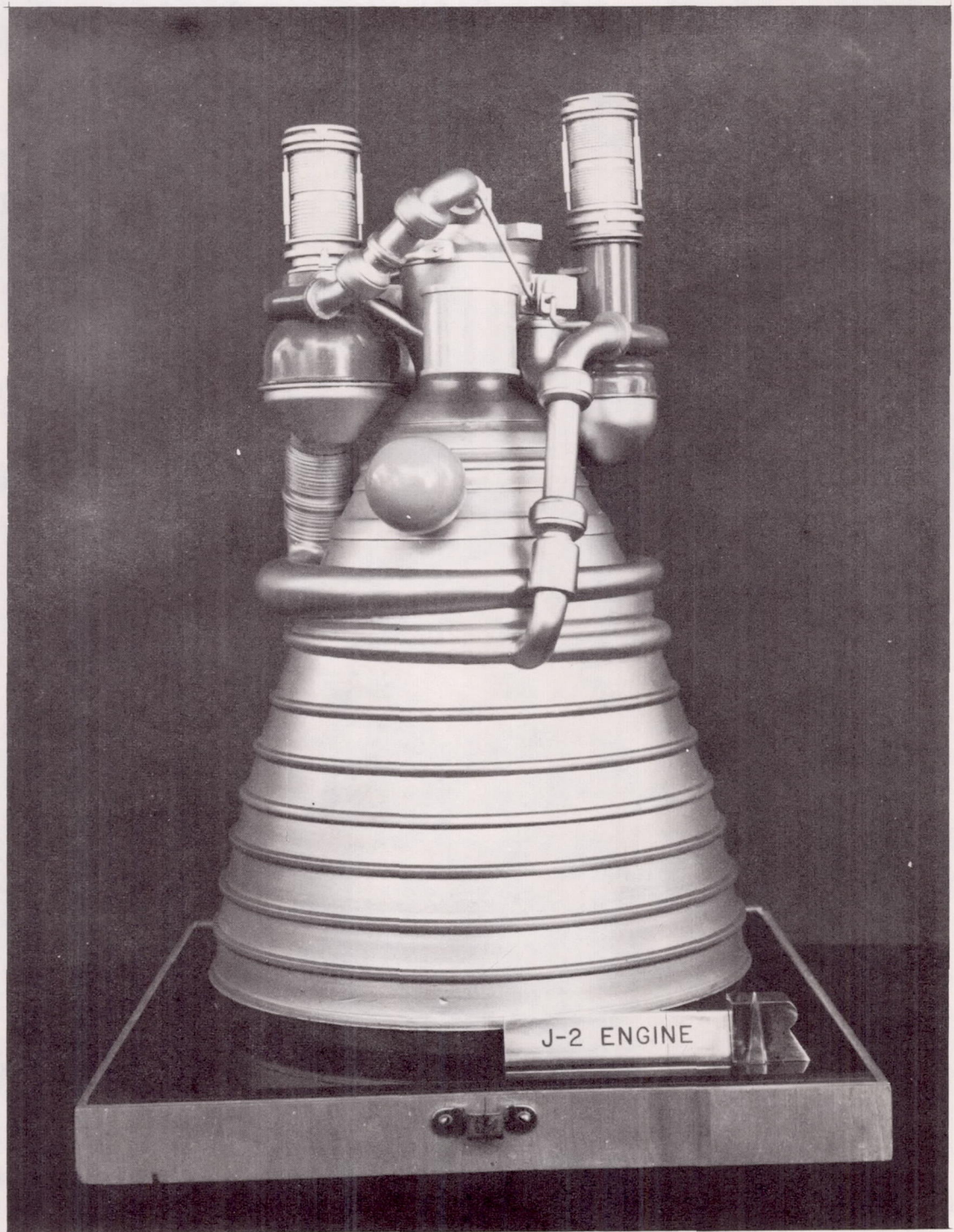


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DOUGLAS AIRCRAFT S-IV STAGE
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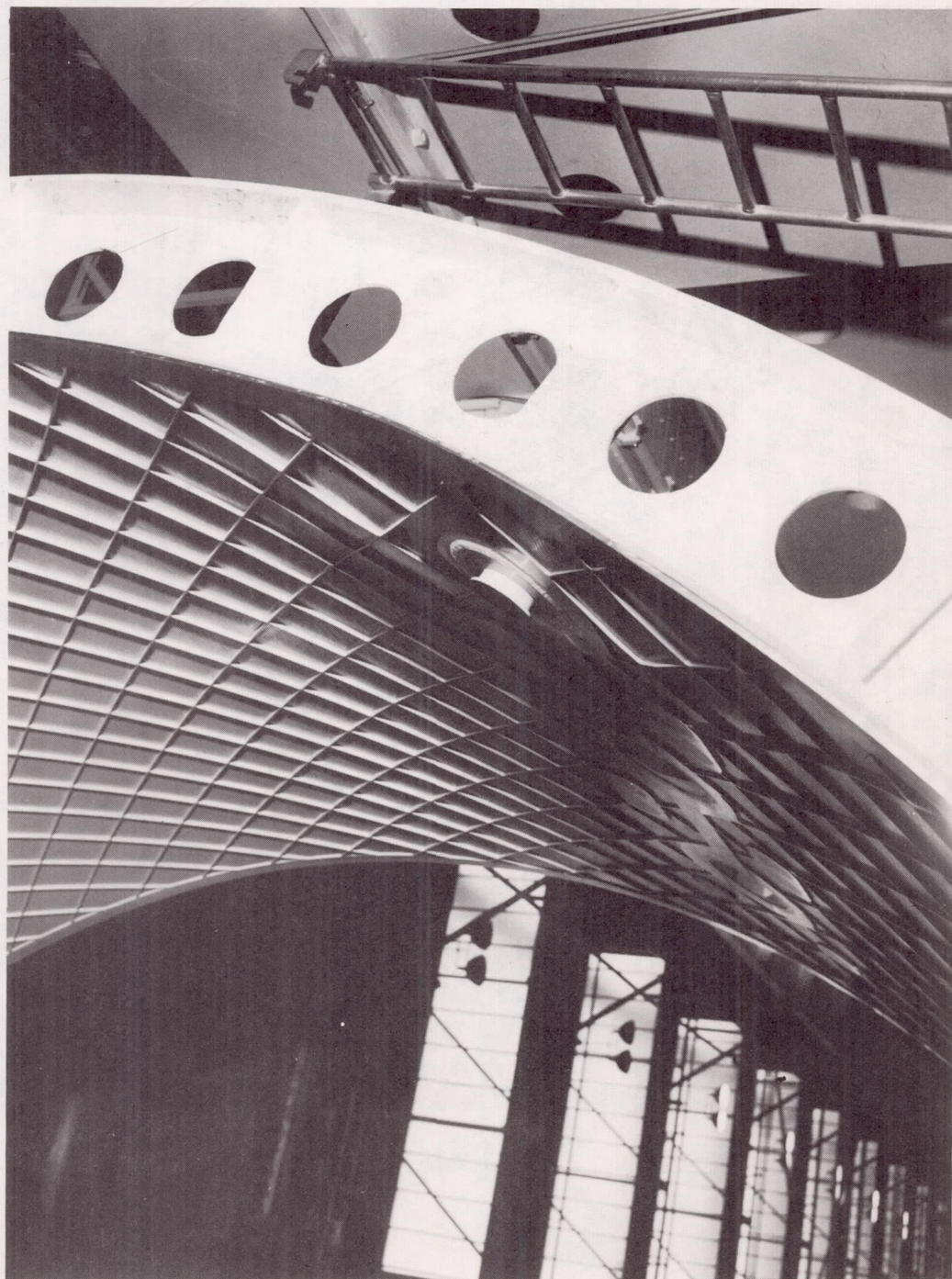


FIGURE 44. LIQUID HYDROGEN TANK SHOWING
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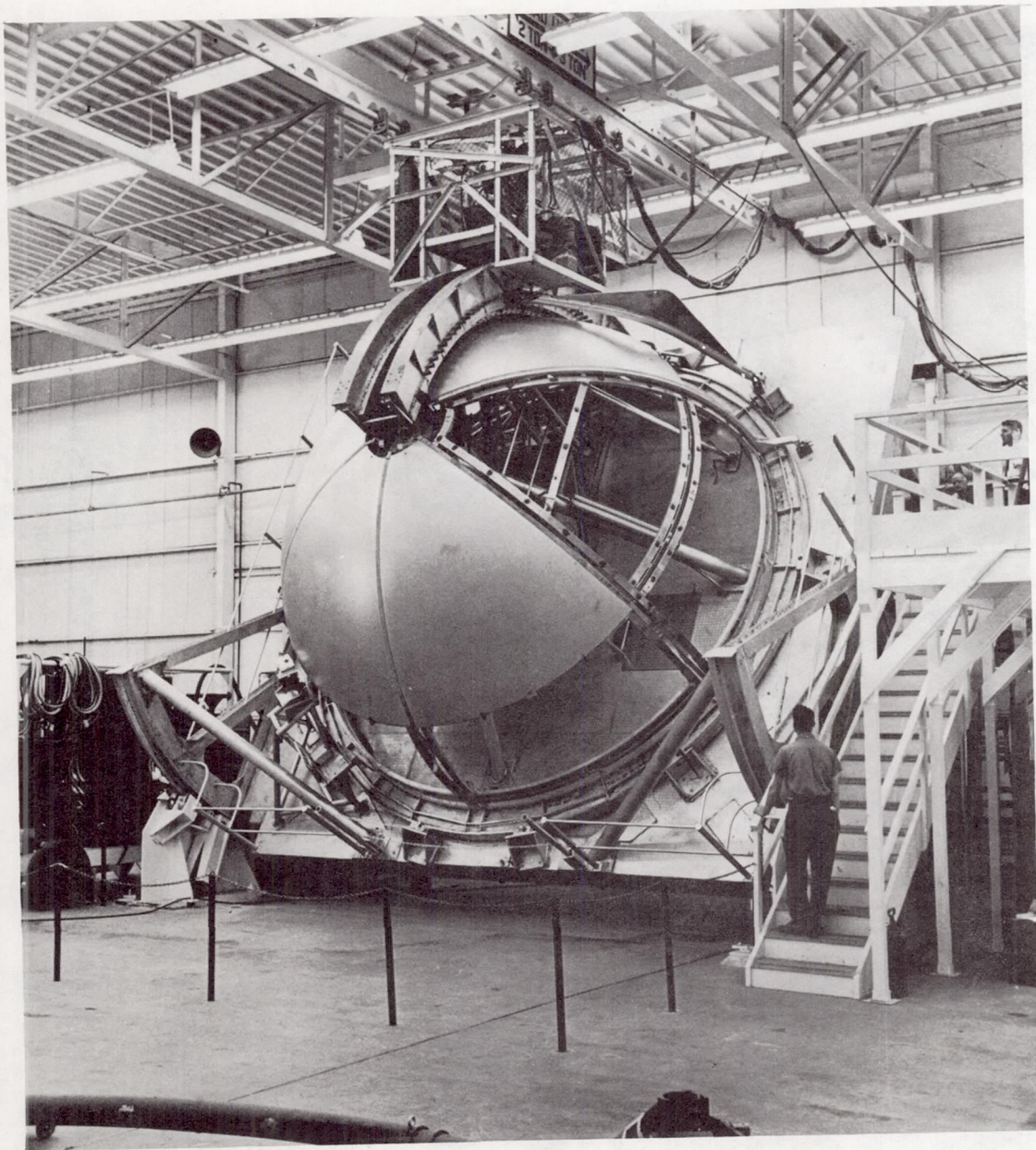


FIGURE 45. WELDING S-IV COMMON DOME

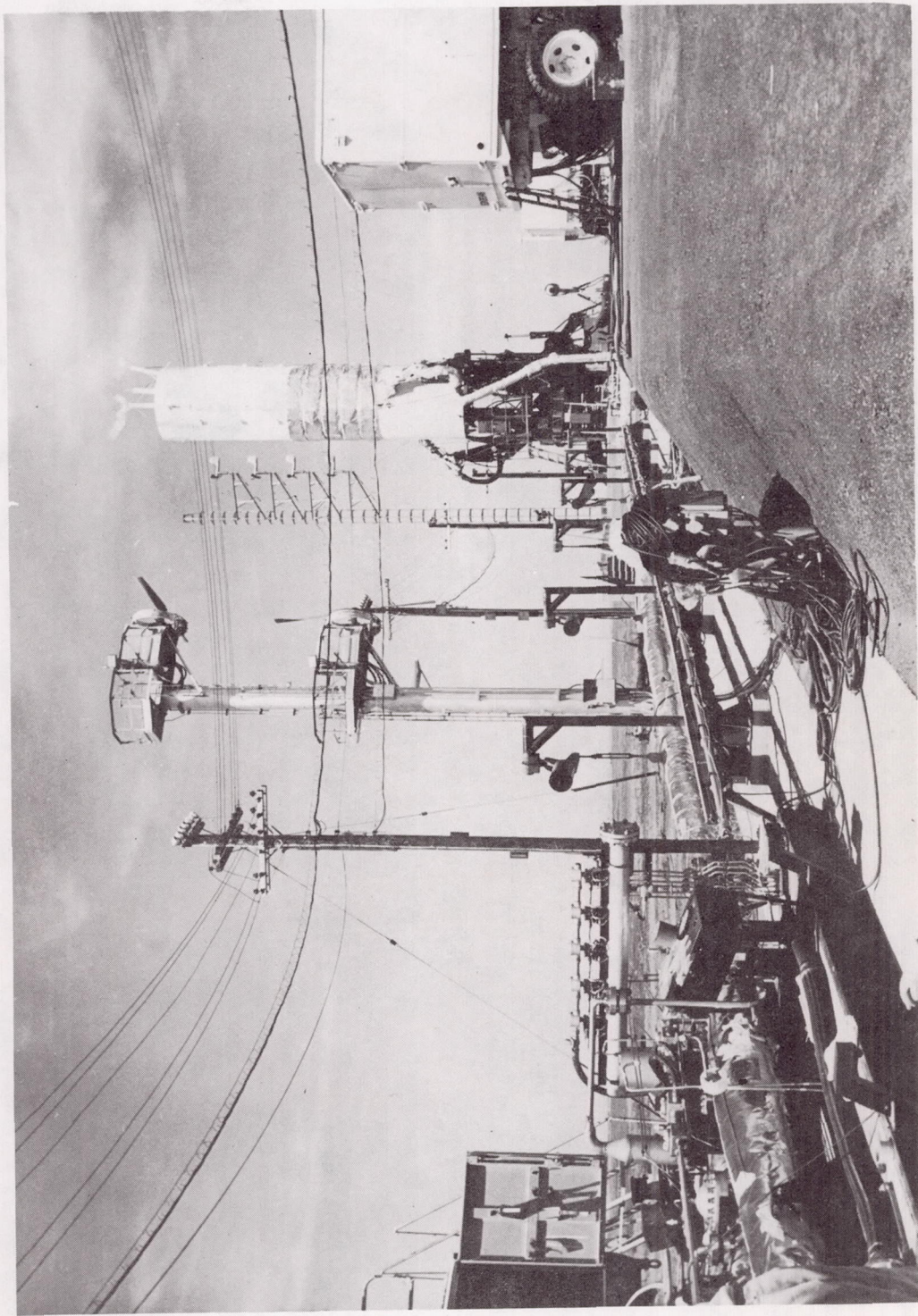


FIGURE 46. LIQUID HYDROGEN TEST FACILITY AT SACTO

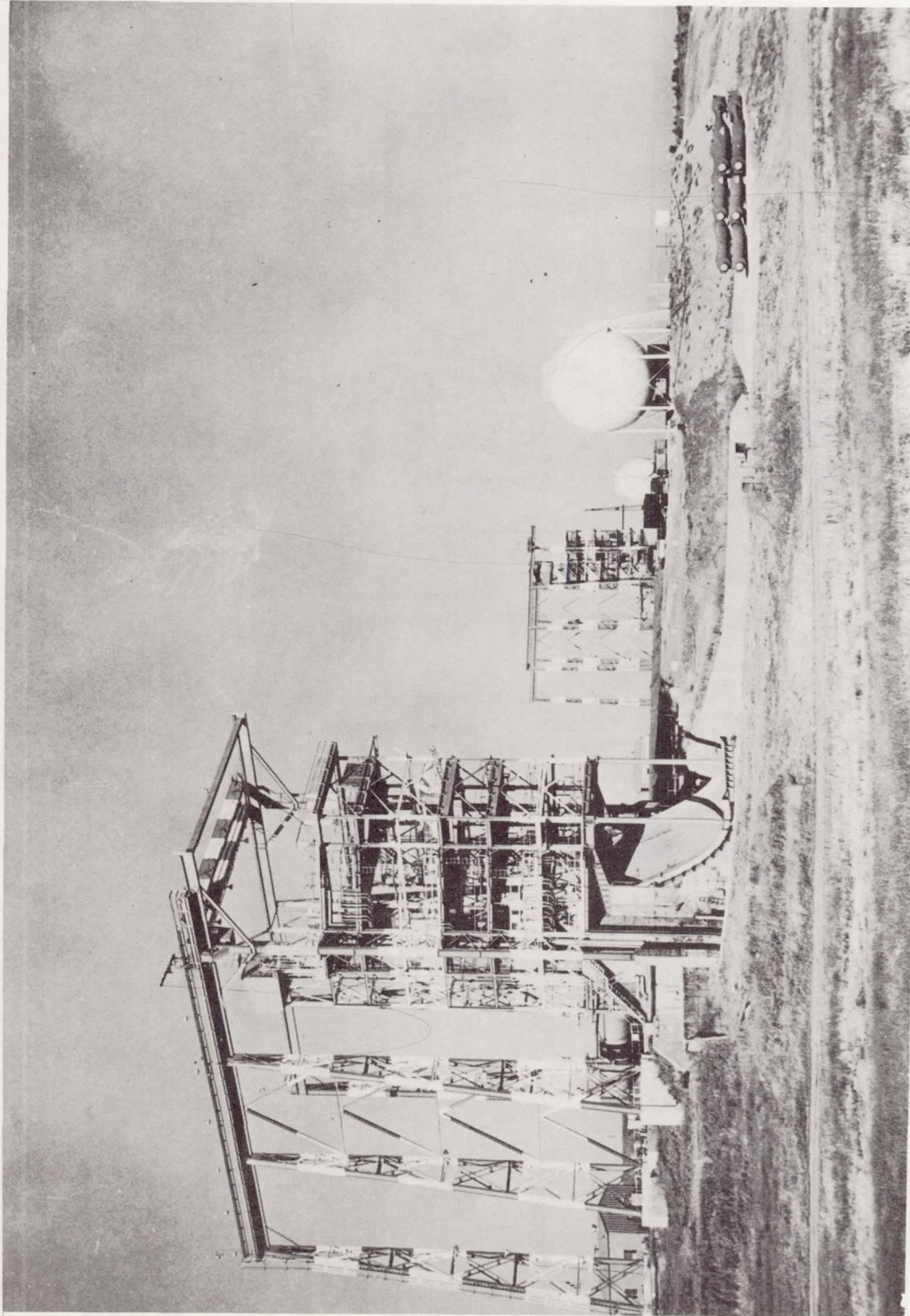


FIGURE 47. SACTO S-IV TEST STANDS

MSFC MICHLOUD FACILITY

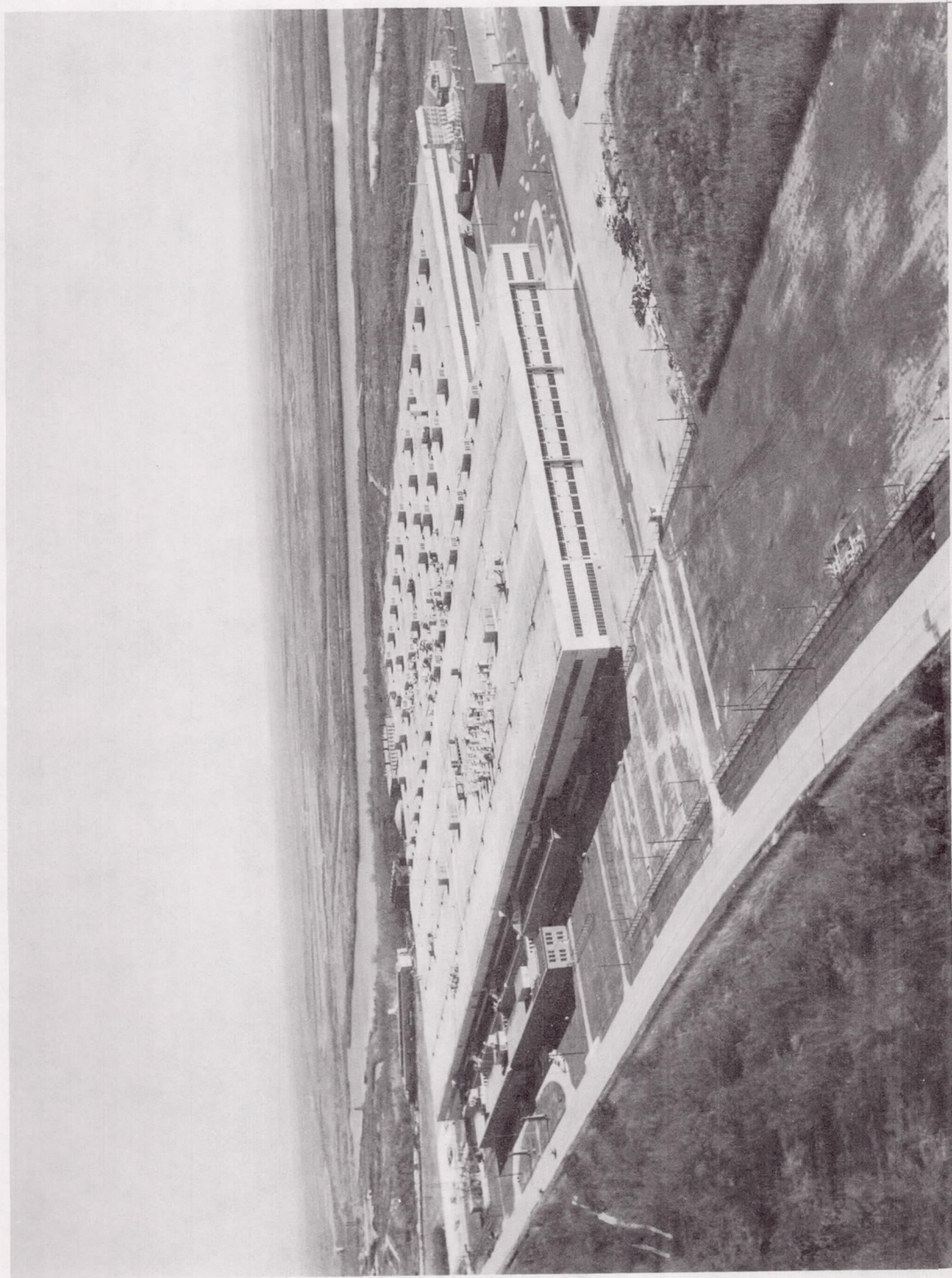


FIGURE 48. AERIAL VIEW FROM THE NORTHEAST

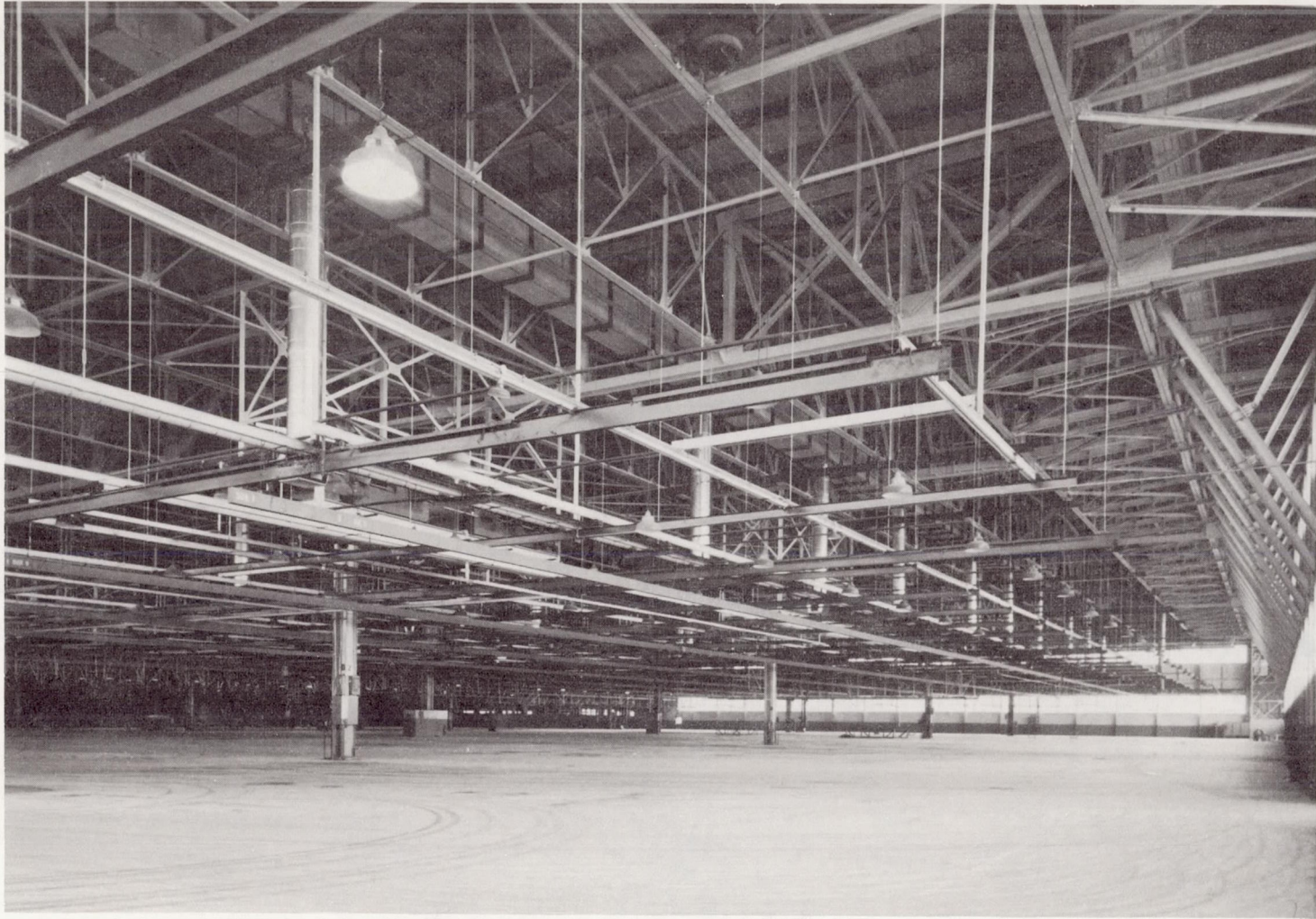


FIGURE 49. LOOKING SOUTHWEST FROM THE NORTHEAST
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APPROVAL

PICTORIAL PROGRESS REPORT
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Volume IV

The information in this report has been reviewed for security classification. Review of any information concerning Department of Defense or Atomic Energy Commission programs has been made by the MSFC Security Classification Officer. This report, in its entirety, has been determined to be unclassified.

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